0151DEL_P10b1

TIP PROJECT: P-5206A

CONTRACT:

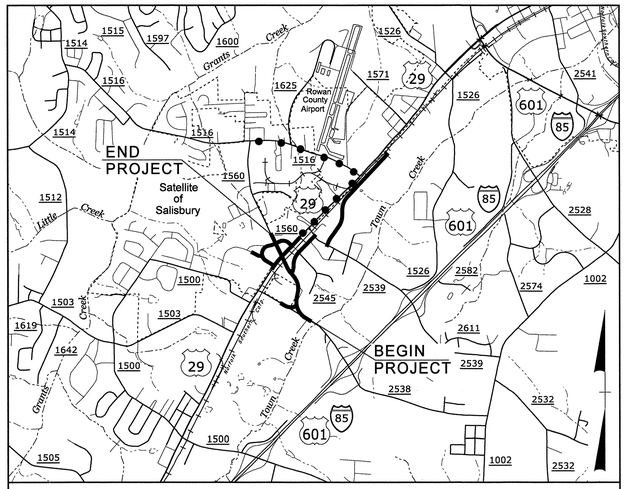
STATE OF NORTH CAROLINA
NCDOT RAIL DIVISION

T.I.P. NO.	SHEET NO.
P-5206A	UC-1

UTILITY CONSTRUCTION PLANS
ROWAN COUNTY

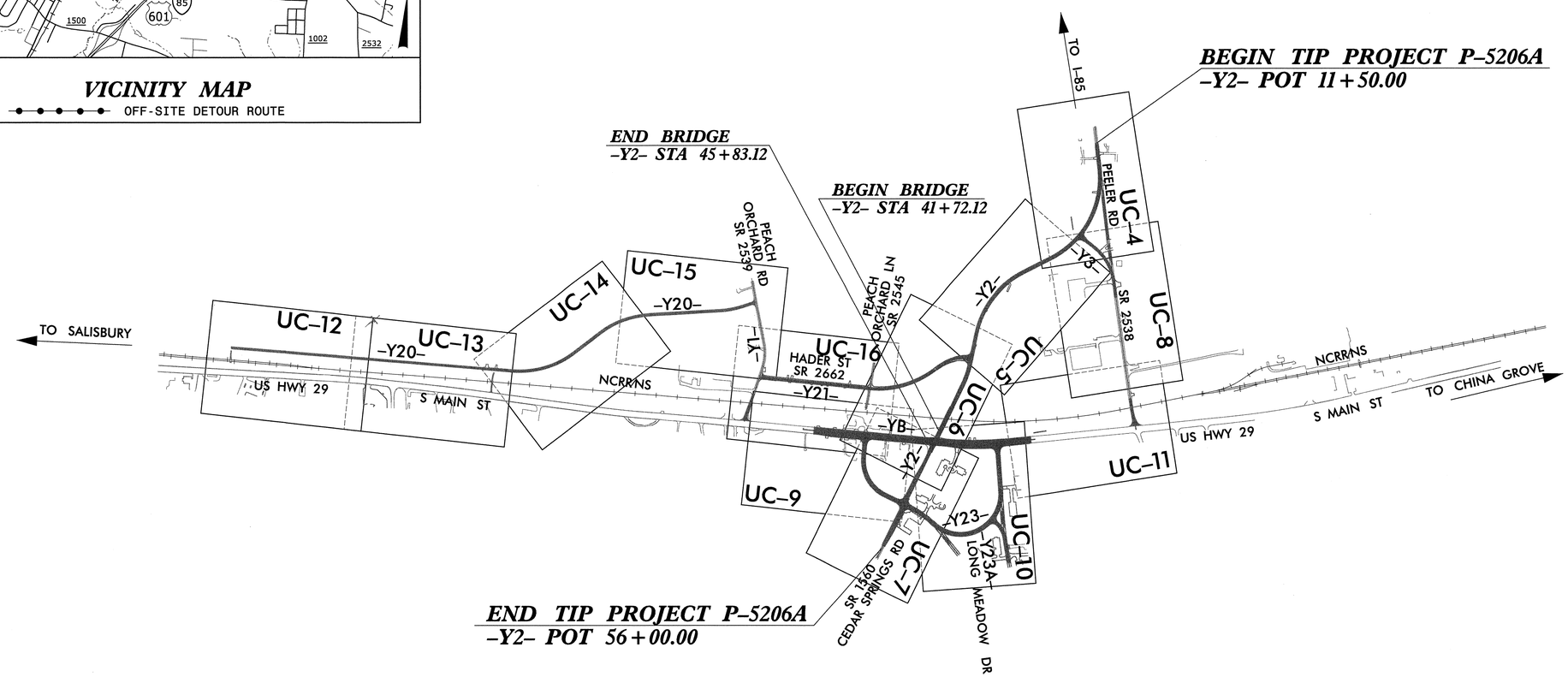
LOCATION: PEELER ROAD – GRADE SEPARATION OVER NCRR/NS FROM REID TO NORTH KANNAPOLIS

TYPE OF WORK: WATER AND SEWER CONSTRUCTION



VICINITY MAP
OFF-SITE DETOUR ROUTE

NAD 83/NSRS 2007



NDOT RAIL DIVISION CONTACT: SANDRA STEPNEY, PE

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	SYMBOLOGY SHEET
UC-3	DETAIL SHEET
UC-4 to UC-16	UTILITY PLAN AND PROFILE SHEET

WATER AND SEWER OWNERS ON PROJECT

(1) WATER – SALISBURY /ROWAN UTILITIES

(2) SEWER – SALISBURY /ROWAN UTILITIES

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 16966 ENGINEER REECE M. SCHULER

11/30/2012

Vaughn & Melton
Consulting Engineers
3089-L Beam Road
Charlotte, NC 28217
704-357-0488

PREPARED FOR OFFICE OF:
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UTILITIES ENGINEERING SECTION
1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
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Roger Worthington, P.E.	UTILITIES SECTION ENGINEER
Xxxxx Xxxxx, P.E.	UTILITIES SQUAD LEADER PROJECT ENGINEER
Reece Schuler, PE	UTILITIES PROJECT DESIGNER

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

- Water Line (Sized as Shown) — 12" WL
- 11¼ Degree Bend
- 22½ Degree Bend
- 45 Degree Bend
- 90 Degree Bend
- Plug
- Tee
- Cross
- Reducer
- Gate Valve — GV
- Butterfly Valve — BV
- Tapping Valve — TGV
- Line Stop — LS
- Line Stop with Bypass — LS/BP
- Blow Off — BO
- Fire Hydrant — PFH
- Relocate Fire Hydrant — RFH
- Remove Fire Hydrant — REM FH
- Water Meter — PWM
- Relocate Water Meter — RWM
- Remove Water Meter — REM WM
- Water Pump Station — PS(W)
- RPZ Backflow Preventer — PRPZ
- DCV Backflow Preventer — PBFP
- Relocate RPZ Backflow Preventer — RRPZ
- Relocate DCV Backflow Preventer — RBFP

PROPOSED SEWER SYMBOLS

- Gravity Sewer Line (Sized as Shown) — 12" SS
- Force Main Sewer Line (Sized as Shown) — 12" FSS
- Manhole (Sized per Note)
- Sewer Pump Station — PS(SS)

PROPOSED MISCELLANOUS UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Telephone Pedestal — TEL PED
- Utility Line by Others (Type as Shown)
- Trenchless Installation — 12" TL INSTALL
- Encasement by Open Cut — 24" ENCAS BY OC
- Encasement — 24" ENCASEMENT
- Thrust Block
- Air Release Valve — AR
- Utility Vault — UV
- Concrete Pier — CP
- Steel Pier — SP
- Plan Note — NOTE
- Pay Item Note — PAY ITEM

EXISTING UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Utility Pole
- Utility Pole with Base
- H-Frame Pole
- Power Transmission Line Tower
- Water Manhole
- Power Manhole
- Telephone Manhole
- Sanitary Sewer Manhole
- Hand Hole for Cable
- Power Transformer
- Telephone Pedestal
- CATV Pedestal
- Gas Valve
- Gas Meter
- Located Miscellaneous Utility Object
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.
- *Underground Power Line — P
- *Underground Telephone Cable — T
- *Underground Telephone Conduit — TC
- *Underground Fiber Optics Telephone Cable — T FO
- *Underground TV Cable — TV
- *Underground Fiber Optics TV Cable — TV FO
- *Underground Gas Pipeline — G
- Aboveground Gas Pipeline — A/G Gas
- *Underground Water Line — W
- Aboveground Water Line — A/G Water
- *Underground Gravity Sanitary Sewer Line — SS
- Aboveground Gravity Sanitary Sewer Line — A/G Sanitary Sewer
- *Underground SS Forced Main Line — FSS
- Underground Unknown Utility Line — ?UTL
- SUE Test Hole
- Water Meter
- Water Valve
- Fire Hydrant
- Sanitary Sewer Cleanout

*For Existing Utilities

- Utility Line Drawn from Record (Type as Shown) — W
- Designated Utility Line (Type as Shown) — W

0151DEL_P10b1 5/14/99

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES NOTES AND DETAILS SHEET

Vaughn & Melton
Consulting Engineers
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Tri-Cities, Tennessee 423-467-8401
Knoxville, Tennessee 865-546-5800
Middlesboro, Kentucky 606-248-6600
Spartanburg, South Carolina 864-574-4775
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PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-3
DESIGNED BY: RMS	
DRAWN BY: NVA	
CHECKED BY: RMS	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)250-4128 FAX:(919)250-4119	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026850 REECE M. SCHULCER
11/30/2012

UTILITY CONSTRUCTION

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.

2. THE EXISTING UTILITIES BELONG TO SALISBURY/ROWAN UTILITIES.

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF ENVIRONMENTAL HEALTH. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WATER QUALITY. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPROTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

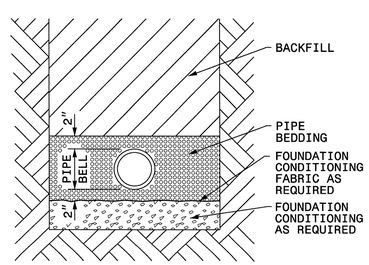
6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITONAL COST TO THE DEPARTMENT.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

TRENCH DETAIL



PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

PROJECT SPECIFIC NOTES:

1. UNLESS OTHERWISE NOTED IN THE PLANS, ADJUST ALL MANHOLES WITHIN THE PROJECT TO FINISHED GRADE. PAYMENT WILL BE MADE UNDER "ADJUSTMENT OF MANHOLES".

2. UNLESS OTHERWISE NOTED IN THE PLANS, ADJUST ALL METER BOXES OR VALVE BOXES WITHIN THE PROJECT TO FINISHED GRADE. PAYMENT WILL BE MADE UNDER "ADJUSTMENT OF METER BOXES OR VALVE BOXES".

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-4

DESIGNED BY: RMS
DRAWN BY: LAM
CHECKED BY: RMS
APPROVED BY:
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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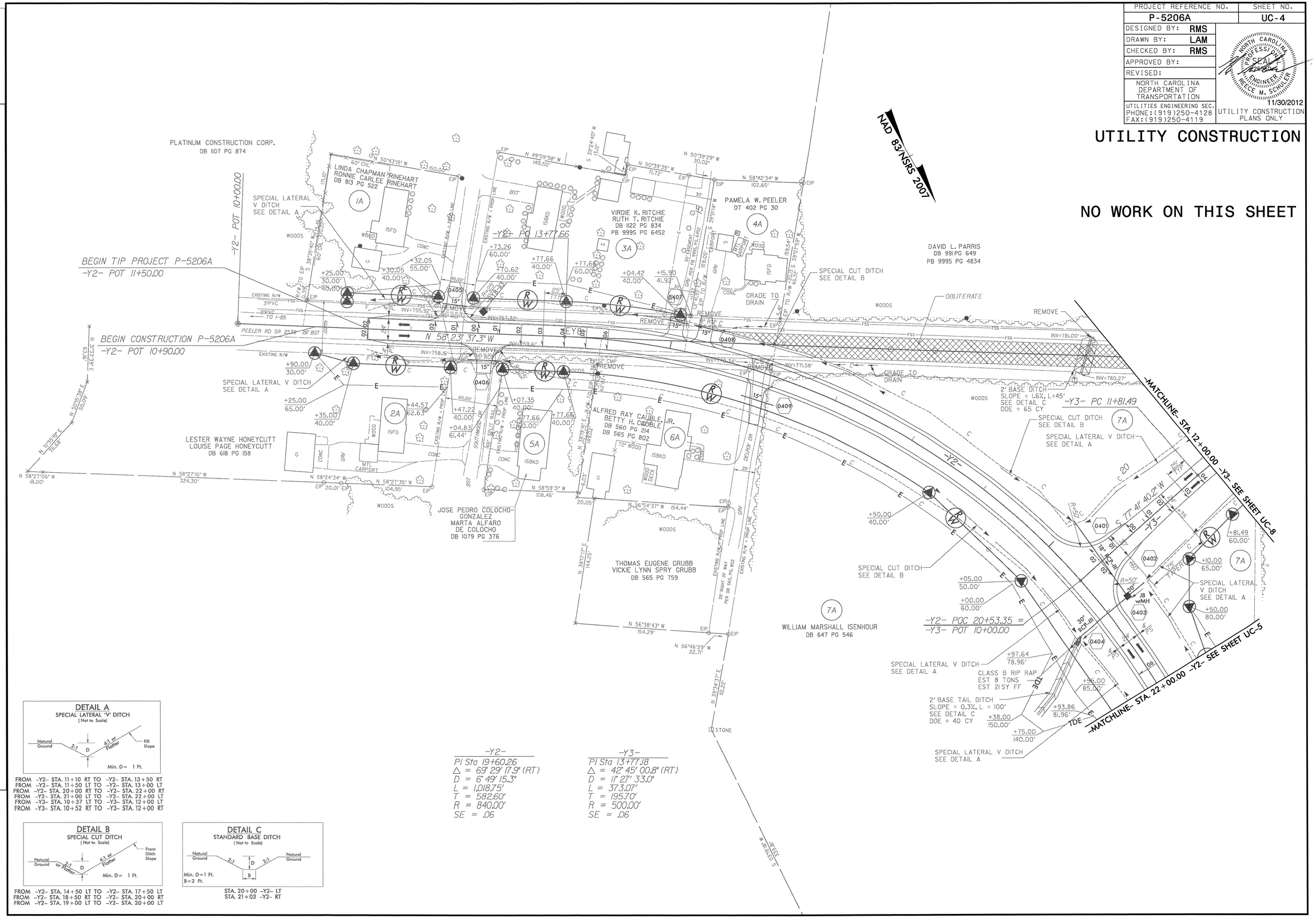
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019 REECE M. SCHULLER
11/30/2012

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

NO WORK ON THIS SHEET



DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground — 2:1 — D — 4:1 or Flatter — Fill Slope
Min. D = 1 Ft.

FROM -Y2- STA. 11+10 RT TO -Y2- STA. 13+50 RT
FROM -Y2- STA. 11+50 LT TO -Y2- STA. 13+00 LT
FROM -Y2- STA. 20+00 RT TO -Y2- STA. 22+00 RT
FROM -Y2- STA. 21+00 LT TO -Y2- STA. 22+00 LT
FROM -Y3- STA. 10+37 LT TO -Y3- STA. 12+00 LT
FROM -Y3- STA. 10+52 RT TO -Y3- STA. 12+00 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground — 2:1 or Flatter — D — 4:1 or Flatter — Front Ditch Slope
Min. D = 1 Ft.

FROM -Y2- STA. 14+50 LT TO -Y2- STA. 17+50 LT
FROM -Y2- STA. 18+50 RT TO -Y2- STA. 20+00 RT
FROM -Y2- STA. 19+00 LT TO -Y2- STA. 20+00 LT

DETAIL C
STANDARD BASE DITCH
(Not to Scale)

Natural Ground — 2:1 — D — 2:1 — Natural Ground
Min. D=1 Ft.
B=2 Ft.

STA. 20+00 -Y2- LT
STA. 21+03 -Y2- RT

-Y2-
PI Sta 19+60.26
Δ = 69° 29' 17.9" (RT)
D = 6° 49' 15.3"
L = 1,018.75'
T = 582.60'
R = 840.00'
SE = .06

-Y3-
PI Sta 13+77.18
Δ = 42° 45' 00.8" (RT)
D = 11° 27' 33.0"
L = 373.07'
T = 195.70'
R = 500.00'
SE = .06

REVISIONS

DGN 0151DEL_P1061

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-5

DESIGNED BY: RMS
DRAWN BY: LAM
CHECKED BY: RMS
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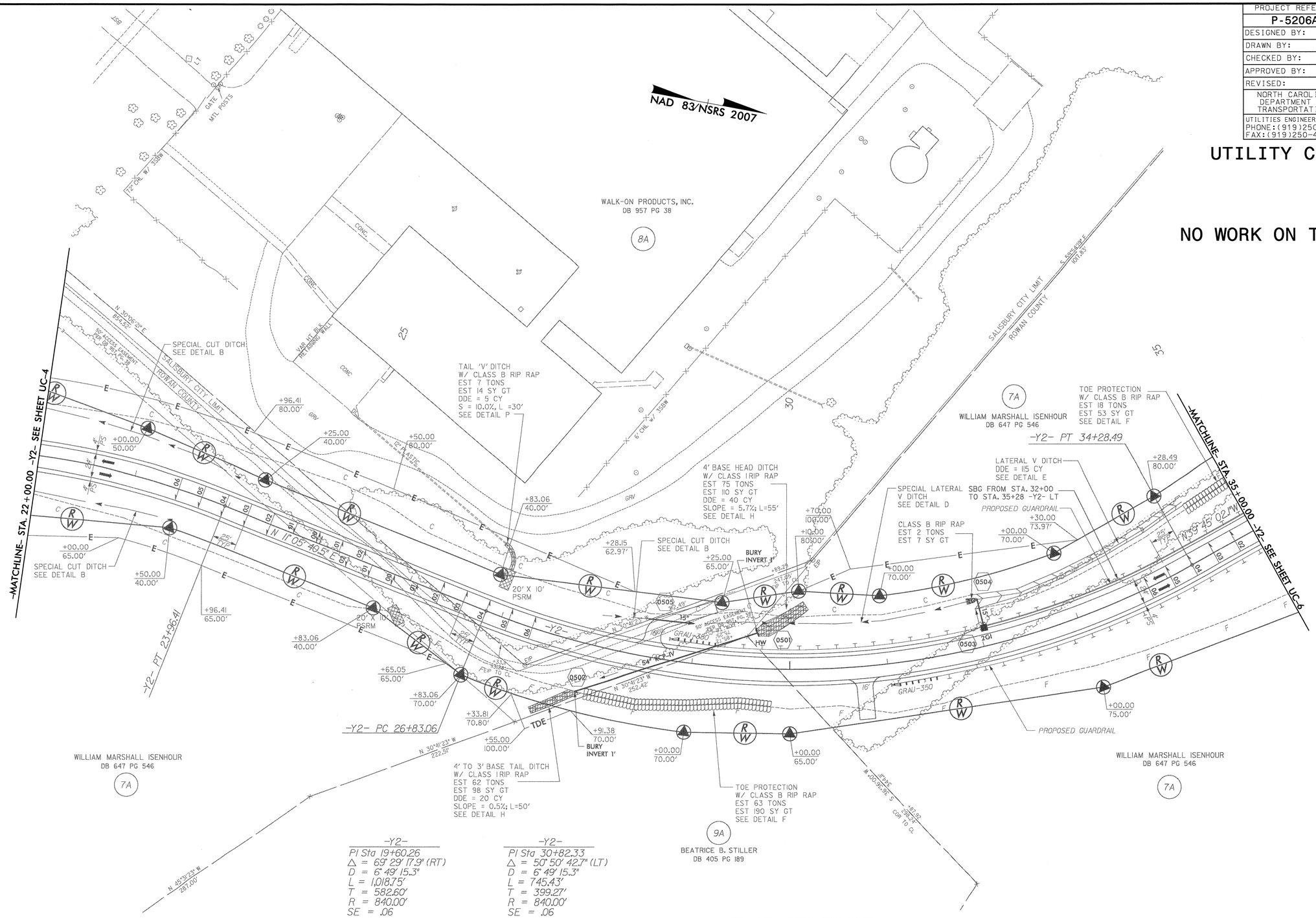
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 028604 REECE M. SCHOLLER 11/30/2012

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

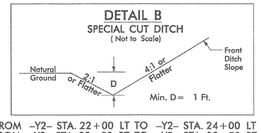
NO WORK ON THIS SHEET



-Y2-
PI Sta 19+60.26
△ = 69° 29' 17.9" (RT)
D = 6° 49' 15.3"
L = 1,018.75'
T = 582.60'
R = 840.00'
SE = .06

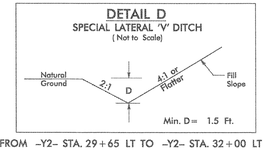
-Y2-
PI Sta 30+82.33
△ = 50° 50' 42.7" (LT)
D = 6° 49' 15.3"
L = 745.43'
T = 399.27'
R = 840.00'
SE = .06

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



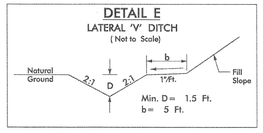
FROM -Y2- STA. 22+00 LT TO -Y2- STA. 24+00 LT
FROM -Y2- STA. 22+00 RT TO -Y2- STA. 23+50 RT
FROM -Y2- STA. 28+00 LT TO -Y2- STA. 29+65 LT

DETAIL D
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



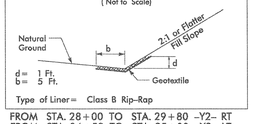
FROM -Y2- STA. 29+65 LT TO -Y2- STA. 32+00 LT

DETAIL E
LATERAL 'V' DITCH
(Not to Scale)



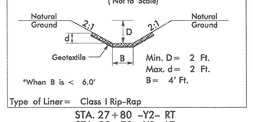
FROM -Y2- STA. 32+00 LT TO -Y2- STA. 34+50 LT

DETAIL F
TOE PROTECTION
(Not to Scale)



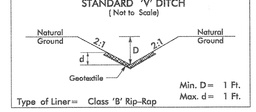
Type of Liner= Class B Rip-Rap
FROM STA. 28+00 TO STA. 29+80 -Y2- RT
FROM STA. 34+50 TO STA. 35+00 -Y2- LT

DETAIL H
STANDARD BASE DITCH
(Not to Scale)



Type of Liner= Class I Rip-Rap
STA. 27+80 -Y2- RT
STA. 29+70 -Y2- LT

DETAIL P
STANDARD 'V' DITCH
(Not to Scale)



Type of Liner= Class 'B' Rip-Rap
STA. 26+92 -Y2- LT

REVISIONS

DGN 0151DEL_P10b1

UTILITY CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-6

DESIGNED BY: RMS
DRAWN BY: LAM
CHECKED BY: RMS
APPROVED BY:
REVISED:

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NORTH CAROLINA PROFESSIONAL SEAL ENGINEER RECCE M. SCHULER 11/30/2012

UTILITY CONSTRUCTION PLANS ONLY

0151DEL_P10b1

DGN

REVISIONS

NAD 83/NSRS 2007

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 2:1 or Flatter, D, 4:1 or Flatter, Front Ditch Slope
Min. D = 1 Ft.

FROM -YB- STA. 18+25 LT TO -YB- STA. 19+50 LT
FROM -YB- STA. 18+00 RT TO -YB- STA. 19+50 RT
FROM -YB- STA. 22+00 LT TO -YB- STA. 24+00 LT
FROM -YB- STA. 22+67 RT TO -YB- STA. 24+00 RT

DETAIL N
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, 1'/ft., Fill Slope
Min. D = 1 Ft.
b = 5 Ft.

FROM -Y2- STA. 37+70 RT TO -Y2- STA. 41+35 RT
FROM -Y21- STA. 28+57 RT TO -Y21- STA. 29+25 RT

DETAIL J
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, 1'/ft., B, Fill Slope
Min. D = 1 Ft.
B = 2 Ft.
b = 5 Ft.

FROM -Y21- STA. 26+65 RT TO -Y21- STA. 28+57 RT

-Y2-
PI Sta 38+20.77
Δ = 14° 29' 58.6" (RT)
D = 6° 49' 15.3"
L = 212.58'
T = 106.86'
R = 840.00'
SE = .06

-YB-
PI Sta 26+05.03
Δ = 10° 52' 17.2" (LT)
D = 1° 36' 50.3"
L = 673.59'
T = 337.81'
R = 3,550.00'
SE = .02

-Y21-
PI Sta 23+82.09
Δ = 44° 27' 55.8" (LT)
D = 6° 44' 26.4"
L = 659.66'
T = 347.45'
R = 850.00'
SE = .06

PI Sta 28+42.21
Δ = 40° 35' 11.8" (RT)
D = 14° 19' 26.2"
L = 283.35'
T = 147.91'
R = 400.00'
SE = .02

-MATCHLINE- STA. 24+00.00 -YB- SEE SHEET UC-10

-MATCHLINE- STA. 47+00.00 -Y2- SEE SHEET UC-7

-MATCHLINE- STA. 35+00.00 -Y2- SEE SHEET UC-5

-MATCHLINE- STA. 18+00.00 -YB- SEE SHEET UC-9

-MATCHLINE- STA. 22+00.00 -Y21- SEE SHEET UC-16

WILLIAM MARSHALL ISENHOUR
DB 647 PG 546
7A

TOE PROTECTION
W/ CLASS B RIP RAP
EST 210 TONS
EST 633 SY GT
SEE DETAIL F

-Y2- PC 37+13.91

-Y2- POT 36+64+06 =
-Y21- POT 30+37.16

SBG FROM STA. 32+00
TO STA. 35+28 -Y2- LT

SBG FROM STA. 41+30
TO STA. 41+41 -Y2- LT

-Y2- PT 39+26.49

PROPOSED GUARDRAIL

N 25° 15' 03.5" W

N 39° 45' 02.1" W

SBG FROM STA. 37+44
TO STA. 41+53 -Y2- RT

CLASS B RIP RAP
EST 2 TONS
EST 7 SY GT

LATERAL V DITCH
DDE = 65 CY
SEE DETAIL

-Y21- PT 29+77.65

SBG FROM
STA. 28+75 -Y21- LT
TO STA. 36+10 -Y2- RT

BEGIN BRIDGE
-Y2- POT 41+72.12

LATERAL V DITCH
DDE = 108 CY
SEE DETAIL N

SBG FROM STA. 27+15
TO STA. 28+70 -Y21- RT

-Y21- PRC 26+94.30

LATERAL 2' BASE
DITCH, DDE = 102 CY
SEE DETAIL J

CLASS RIP RAP
EST 17 TONS
30 SY GT

WILLIAM MARSHALL ISENHOUR
DB 647 PG 546
7A

RANDY LEE BEACH
DB 1147 PG 172
DB 1164 PG 705
PB 9995 PG 6926
11A

TOE PROTECTION
W/ CLASS B RIP RAP
EST 163 TONS
EST 491 SY GT
SEE DETAIL F

CORINNE STILLER DEMARCUS
DB 1167 PG 106
PB 9995 PG 6577
10A

LIBERTY HEALTHCARE PROPERTIES
DB 952 PG 487
PB 9995 PG 2071

SPECIAL CUT DITCH
SEE DETAIL B
27A

PROPOSED REINFORCED SOIL SLOPE
(SEE DETAIL SHT 2-)
STA 46+50 TO 50+50

SHERRY ROSE ROSS
DB 1151 PG 339
26A

PROPOSED GUARDRAIL

SPECIAL CUT DITCH
SEE DETAIL B
-YB- PC 22+67.22

END BRIDGE
-Y2- POT 45+83.12
SBG FROM STA. 46+02
TO STA. 50+80 -Y2- LT

NO DECK DRAINS REQUIRED

AMHART CORP.
DB 595 PG 216
13A

PROPOSED SINGLE FACED CONCRETE BARRIER

-Y2- POT 45+02.23 =
-YB- POT 22+29.73

ABANDON 645 LF
12" UTILITY PIPE

CLASS B RIP RAP
EST 2 TONS
EST 7 SY GT

TAIL 'V' DITCH
SLOPE = 1.9%
DDE = 5 CY
SEE DETAIL

25A

-Y2- +54.48
52.49'

-YB- +04.82
50.00'

24A

CORINNE STILLER DEMARCUS
DB 542 PG 487
20

SPECIAL LATERAL V DITCH
SEE DETAIL A

ROBERT W. EIDSON
RUTH M. EIDSON
DB 594 PG 68

SPECIAL CUT DITCH
SEE DETAIL B

19A

SPECIAL CUT DITCH
SEE DETAIL B

CORINNE STILLER DEMARCUS
DB 313 PG 94
22A

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 2:1, D, 4:1 or Flatter, Fill Slope
Min. D = 1 Ft.

FROM -YB- STA. 19+50 RT TO -YB- STA. 21+00 RT

DETAIL F
TOE PROTECTION
(Not to Scale)

Natural Ground, b, 2:1 or Flatter Fill Slope, d, Geotextile
d = 1 Ft.
b = 5 Ft.
Type of Liner = Class B Rip-Rap

FROM STA. 34+50 TO STA. 41+00 -Y2- LT
FROM STA. 22+00 TO STA. 26+65 -Y21- RT

DETAIL M
STANDARD 'V' DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, Natural Ground
Min. D = 1 Ft.

STA. 26+20 -Y2- RT

DETAIL L
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, B, Natural Ground
Min. D = 1 Ft.
B = 2 Ft. TO 10 Ft.

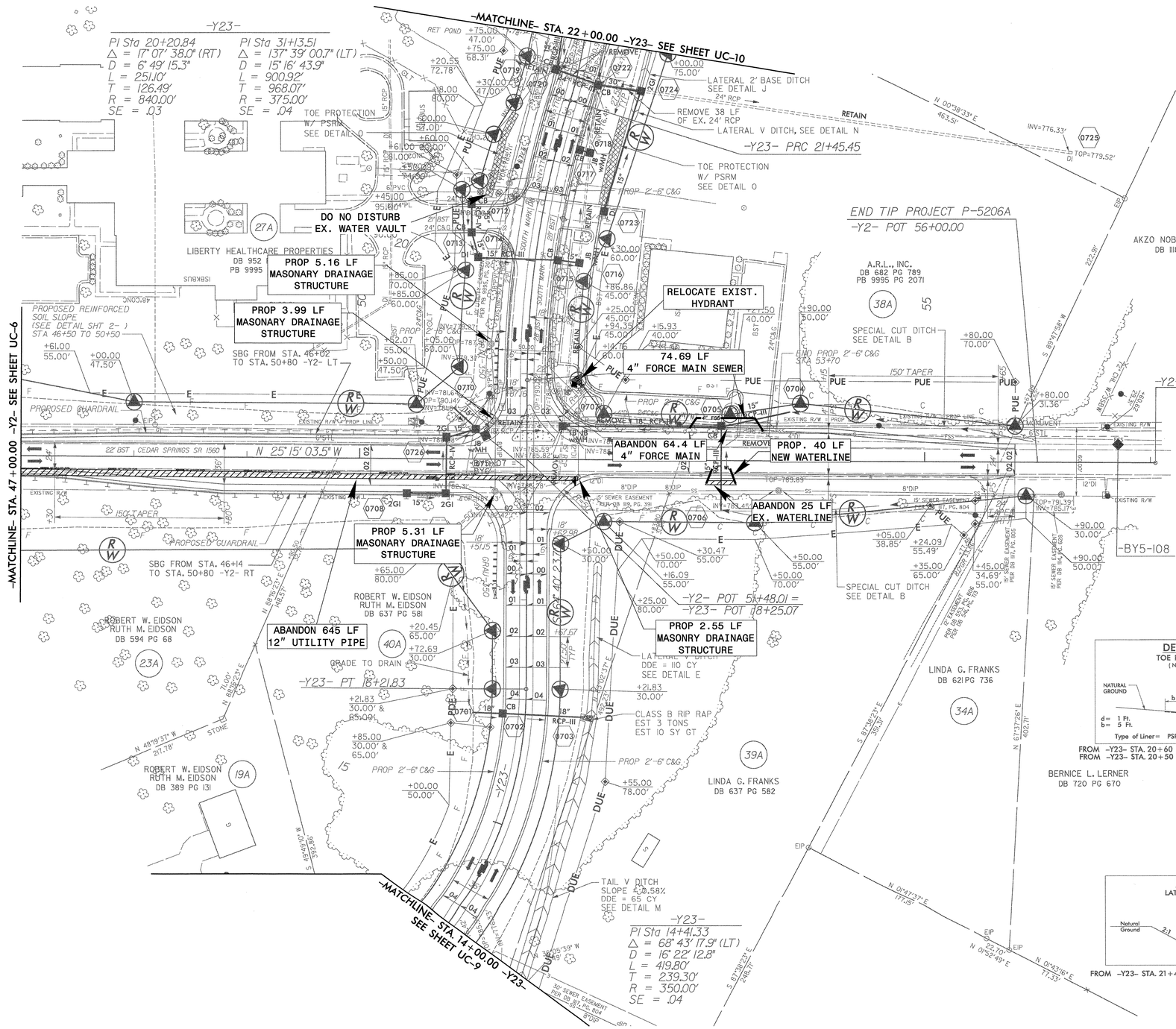
STA. 28+80 -Y21- LT

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-7
DESIGNED BY: RMS	
DRAWN BY: LAM	
CHECKED BY: RMS	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)250-4128 FAX:(919)250-4119	11/30/2012 UTILITY CONSTRUCTION PLANS ONLY

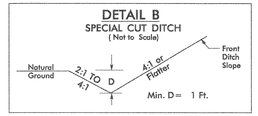
NORTH CAROLINA PROFESSIONAL SEAL ENGINEER PIERCE M. SCHULER

UTILITY CONSTRUCTION

NAD 83/NSRS 2007

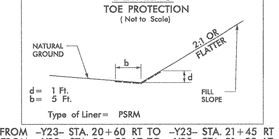


DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



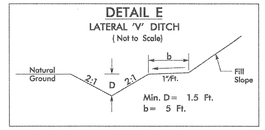
FROM -Y2- STA. 53+80 LT TO -Y2- STA. 56+00 LT
FROM -Y2- STA. 53+20 RT TO -Y2- STA. 55+50 RT

DETAIL O
TOE PROTECTION
(Not to Scale)



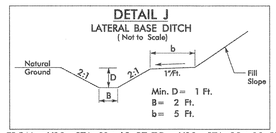
FROM -Y23- STA. 20+60 RT TO -Y23- STA. 21+45 RT
FROM -Y23- STA. 20+50 LT TO -Y23- STA. 21+22 LT

DETAIL E
LATERAL 'V' DITCH
(Not to Scale)



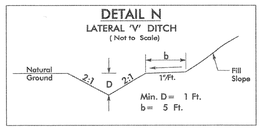
FROM -Y23- STA. 15+00 RT TO -Y23- STA. 17+30 RT

DETAIL J
LATERAL BASE DITCH
(Not to Scale)



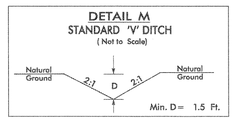
FROM -Y23- STA. 21+68 RT TO -Y23- STA. 22+00 RT

DETAIL N
LATERAL 'V' DITCH
(Not to Scale)



FROM -Y23- STA. 21+45 RT TO -Y23- STA. 21+68 RT

DETAIL M
STANDARD 'V' DITCH
(Not to Scale)



FROM -Y23- STA. 14+00 TO -Y23- STA. 15+00 RT

REVISIONS

DWN 0151DEL_P10b1

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-8

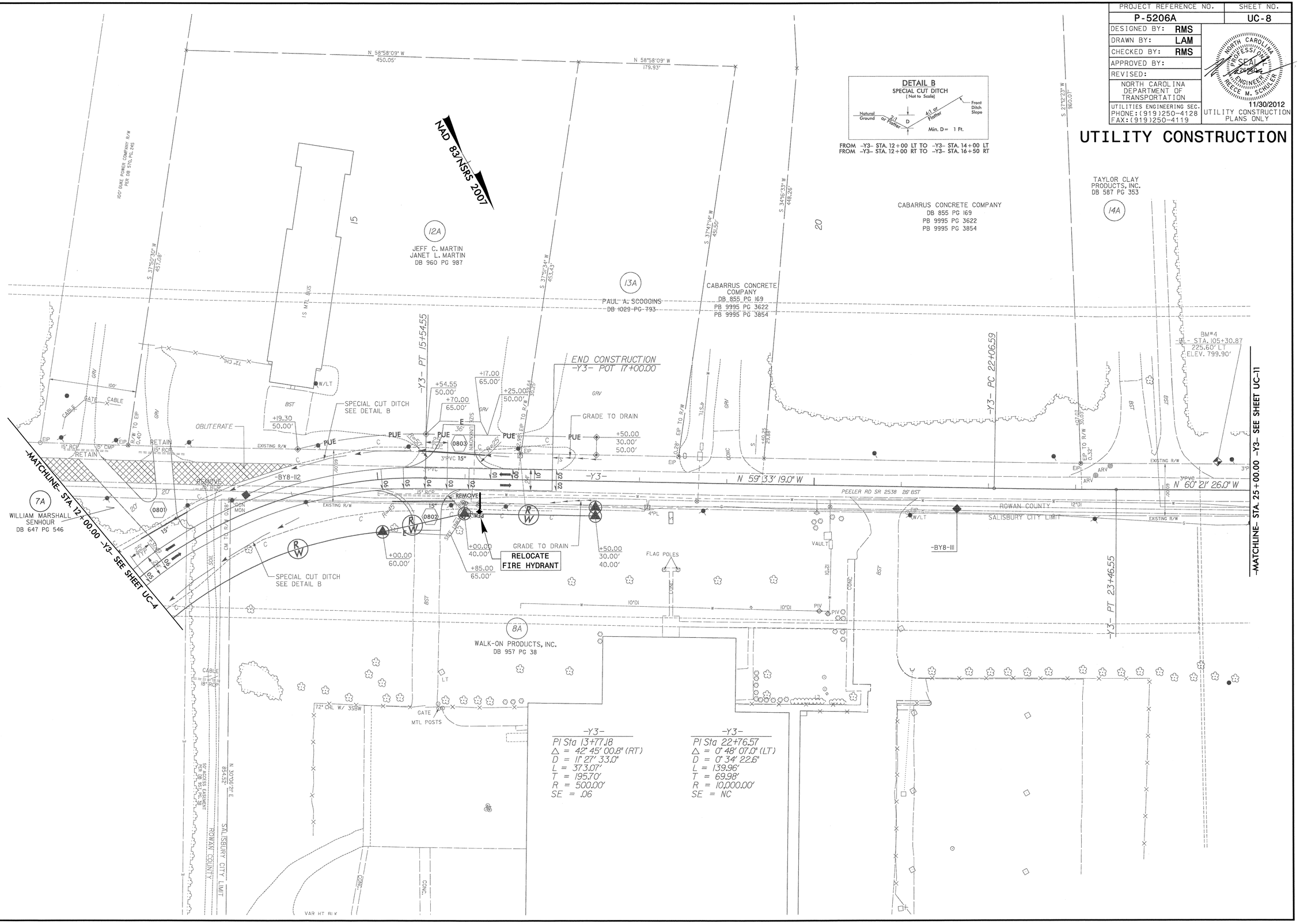
DESIGNED BY: RMS
DRAWN BY: LAM
CHECKED BY: RMS
APPROVED BY:
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)250-4128
FAX:(919)250-4119

NORTH CAROLINA PROFESSIONAL SEAL 25908 ENGINEER REECE M. SCHOLLER
11/30/2012
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



REVISIONS

INDEX 0151DEL_P10b1

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-9

DESIGNED BY: RMS
DRAWN BY: LAM
CHECKED BY: RMS
APPROVED BY:
REVISED:

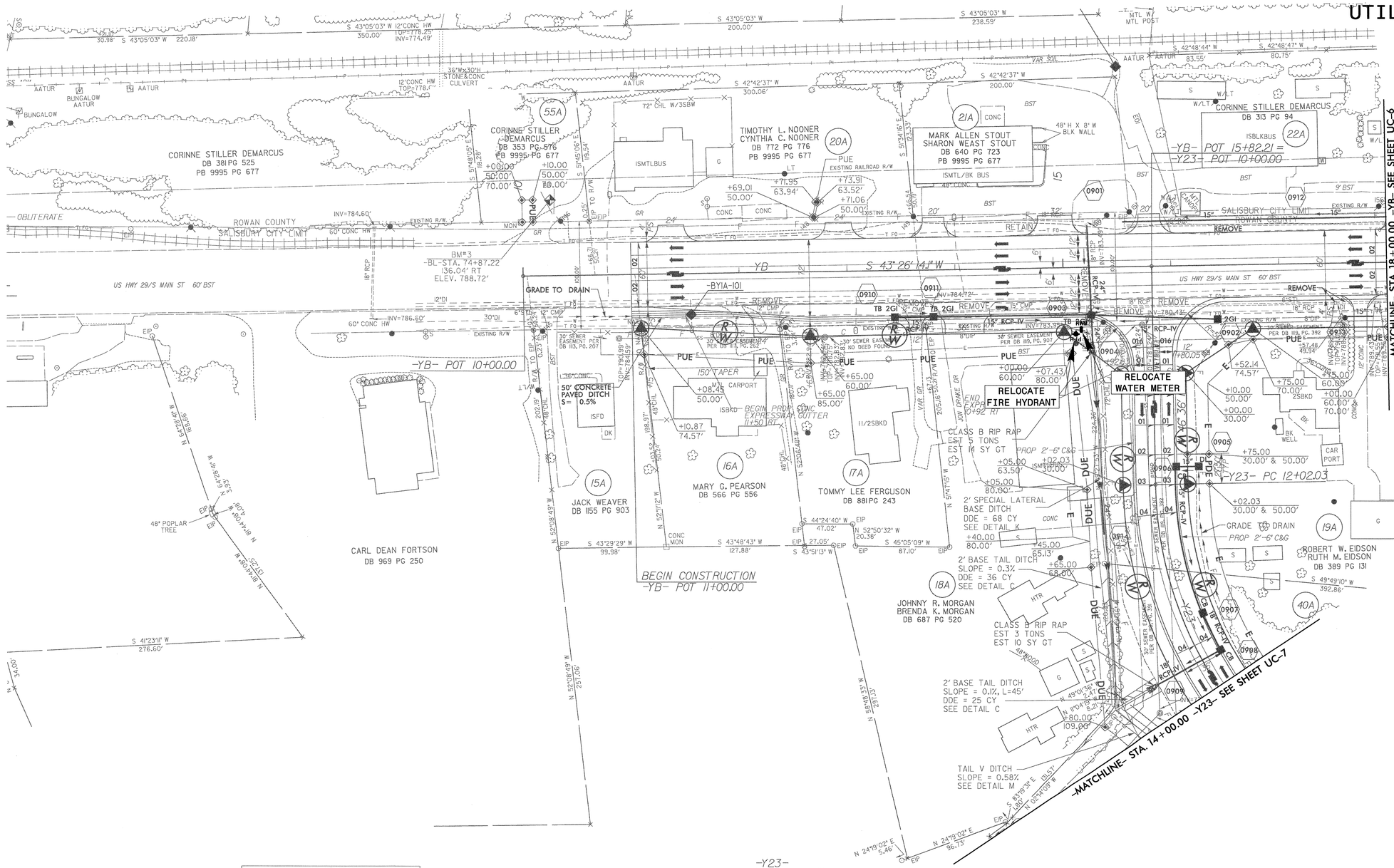
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)250-4128
FAX:(919)250-4119

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER REECE M. SCHULTZ
11/30/2012
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

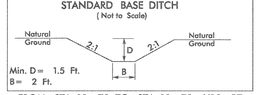
NAD 83/NSRS 2007



-Y23-

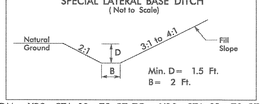
PI Sta 14+41.33
Δ = 68° 43' 17.9" (LT)
D = 16° 22' 12.8"
L = 419.80'
T = 239.30'
R = 350.00'
SE = .04

DETAIL C
STANDARD BASE DITCH
(Not to Scale)



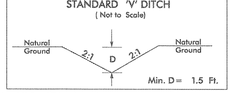
Min. D= 1.5 Ft.
B= 2 Ft.
FROM STA. 12+70 TO STA. 13+73 -Y23- RT

DETAIL K
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D= 1.5 Ft.
B= 2 Ft.
FROM -Y23- STA. 10+70 RT TO -Y23- STA. 12+70 RT

DETAIL M
STANDARD "V" DITCH
(Not to Scale)



Min. D= 1.5 Ft.
FROM -Y23- STA. 13+73 RT TO -Y23- STA. 14+00 RT

REVISIONS

DGN 0151DEL_P10b1

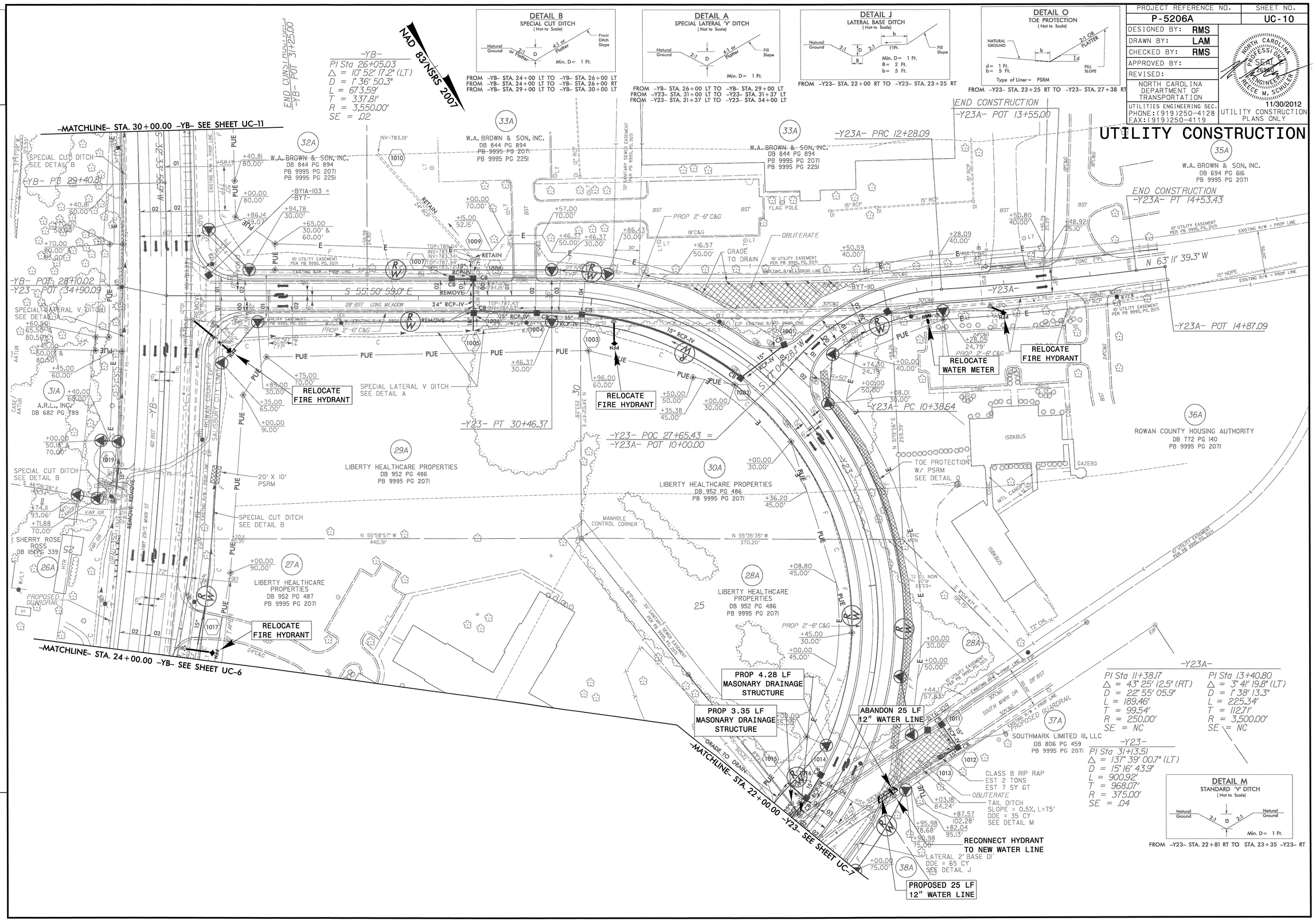
PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-10
DESIGNED BY: RMS	
DRAWN BY: LAM	
CHECKED BY: RMS	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)250-4128 FAX:(919)250-4119	11/30/2012 UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 25860 REGINALD M. SCHILLER

UTILITY CONSTRUCTION

0151DEL_P10b1

REVISIONS



PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-11

DESIGNED BY: RMS
DRAWN BY: LAM
CHECKED BY: RMS
APPROVED BY:
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

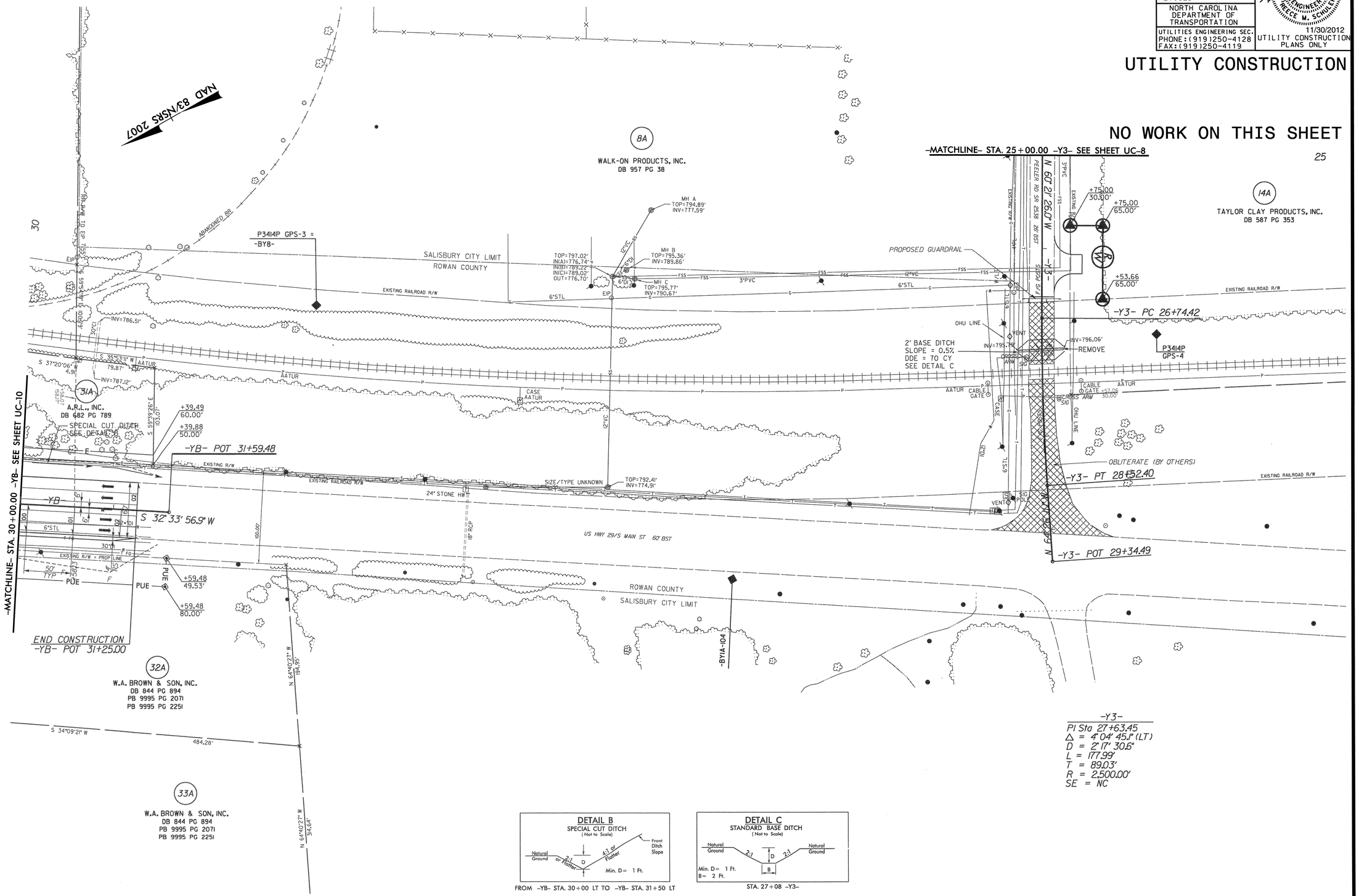
UTILITIES ENGINEERING SEC.
PHONE:(919)250-4128
FAX:(919)250-4119

NORTH CAROLINA PROFESSIONAL SEAL 23960 ENGINEER RECCE W. SCHULTZ III

11/30/2012
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

NO WORK ON THIS SHEET



DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

FROM -YB- STA. 30+00 LT TO -YB- STA. 31+50 LT

DETAIL C
STANDARD BASE DITCH
(Not to Scale)

STA. 27+08 -Y3-

REVISIONS

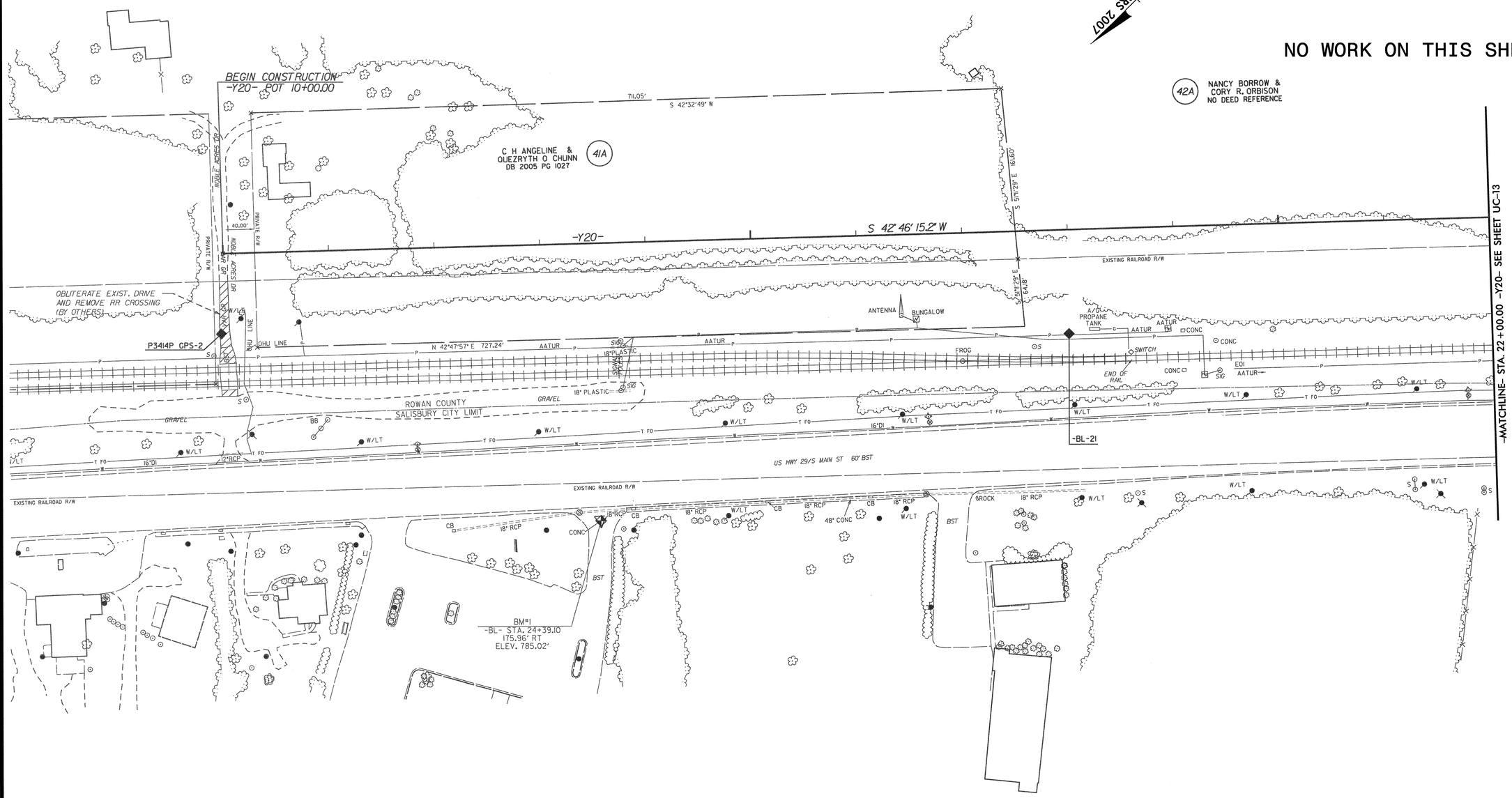
DGN 0151DEL_P10b1

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-12
DESIGNED BY: RMS	
DRAWN BY: LAM	
CHECKED BY: RMS	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)250-4128 FAX:(919)250-4119	11/30/2012 UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26362 REECE W. SCHULER

UTILITY CONSTRUCTION

NO WORK ON THIS SHEET



REVISIONS

0151DEL_P10b1

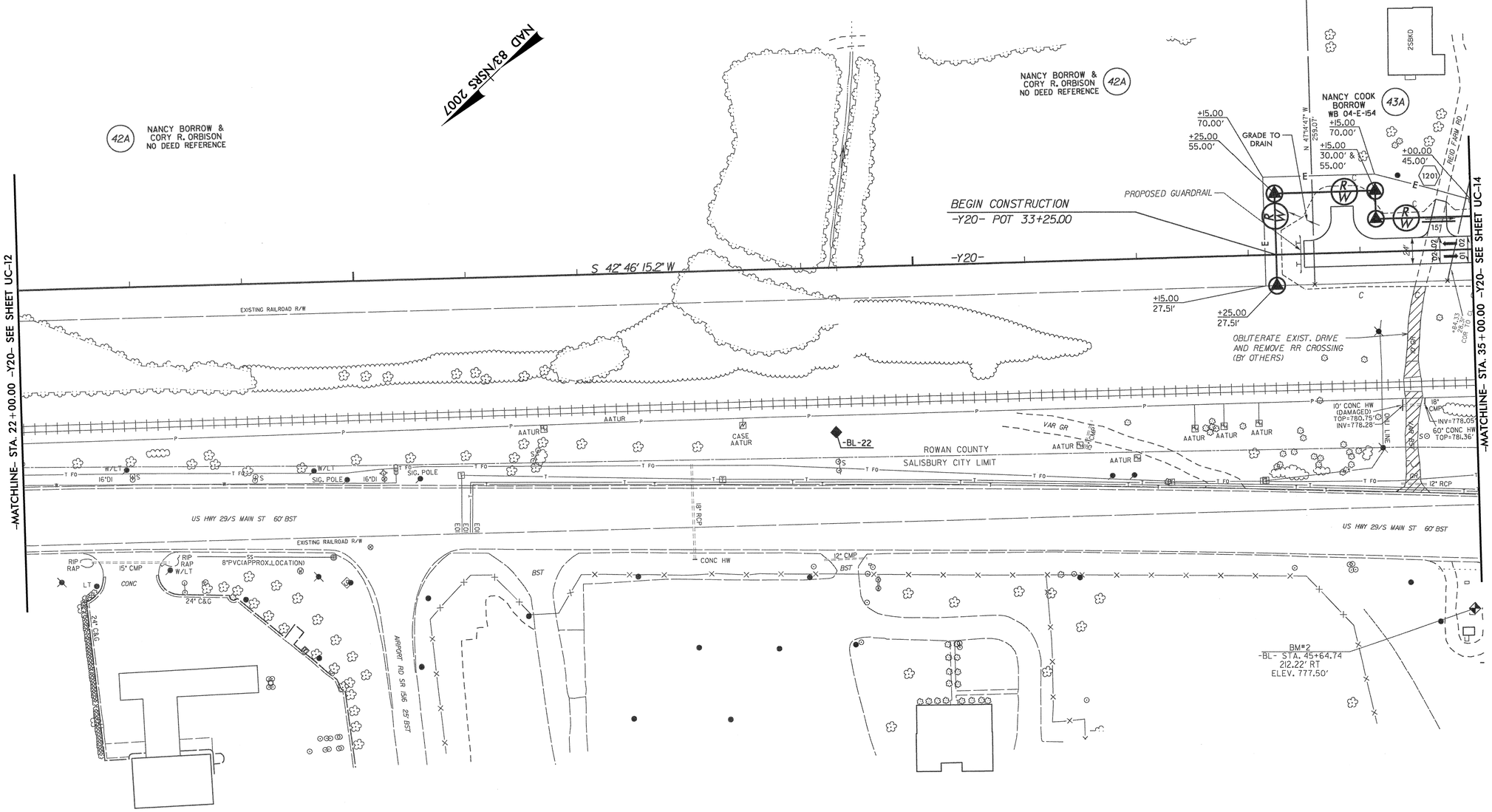
PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-13

DESIGNED BY: RMS
DRAWN BY: LAM
CHECKED BY: RMS
APPROVED BY:
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)250-4128
FAX:(919)250-4119

NORTH CAROLINA PROFESSIONAL SEAL 26980 ENGINEER REECE W. SCHULER
11/30/2012
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



REVISIONS

DGN 0151DEL_P10b1

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-14

DESIGNED BY: RMS
DRAWN BY: LAM
CHECKED BY: RMS
APPROVED BY:
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)250-4128
FAX:(919)250-4119

NORTH CAROLINA PROFESSIONAL SEAL 26960 ENGINEER RECCE W. SCHULER
11/30/2012
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

NO WORK ON THIS SHEET

NAD 83/NSRS 2007

-Y20-
PI Sta 39+46.29
Δ = 41° 50' 37.4" (LT)
D = 6° 44' 26.4"
L = 620.76'
T = 324.96'
R = 850.00'
SE = .06

-Y20-
PI Sta 47+91.32
Δ = 33° 55' 13.5" (RT)
D = 6° 44' 26.4"
L = 503.22'
T = 259.23'
R = 850.00'
SE = .06

-MATCHLINE- STA. 35+00.00 -Y20- SEE SHEET UC-13

-Y20- PC 36+21.33

-Y20- PT 42+42.10

-Y20- PC 45+32.10

-MATCHLINE- STA. 48+00.00 -Y20- SEE SHEET UC-15

S 42° 46' 15.2" W

S 50° 55' 37.8" W

CORY REID ORBISON
DB 816 PG 514
PB 9995 PG 2960

EDWARD E. ORBISON, JR.
DB 545 PG 77

MARTIN MARIETTA MATERIALS, INC
DB 1137 PG 59

SPECIAL CUT DITCH SEE DETAIL B

TOE PROTECTION W/ CLASS B RIP RAP SEE DETAIL F

CLASS B RIP RAP
EST 5 TONS
EST 14 SY FF

2' TO 10' BASE TAIL DITCH
SLOPE = 0.5%, L=35'
DDE = 8 CY
SEE DETAIL L

20' X 10' PSRM

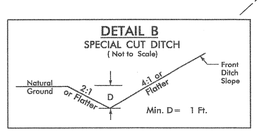
CABLE CATV

ROWAN COUNTY
SALISBURY CITY LIMIT

US HWY 29/S MAIN ST BST

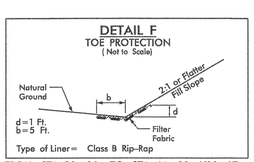
EXISTING RAILROAD R/W

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



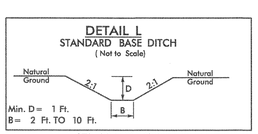
FROM -Y20- STA. 38+00 LT TO -Y20- STA. 39+35 LT
FROM -Y20- STA. 47+50 RT TO -Y20- STA. 48+00 RT

DETAIL F
TOE PROTECTION
(Not to Scale)



FROM STA. 39+36 TO STA. 44+00 -Y20- LT

DETAIL L
STANDARD BASE DITCH
(Not to Scale)



STA. 39+38 -Y20- LT

REVISIONS

DGN 0151DEL_P10b1

0151DEL_P10b1

DCN

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-15

DESIGNED BY: RMS
DRAWN BY: LAM
CHECKED BY: RMS
APPROVED BY:
REVISED:

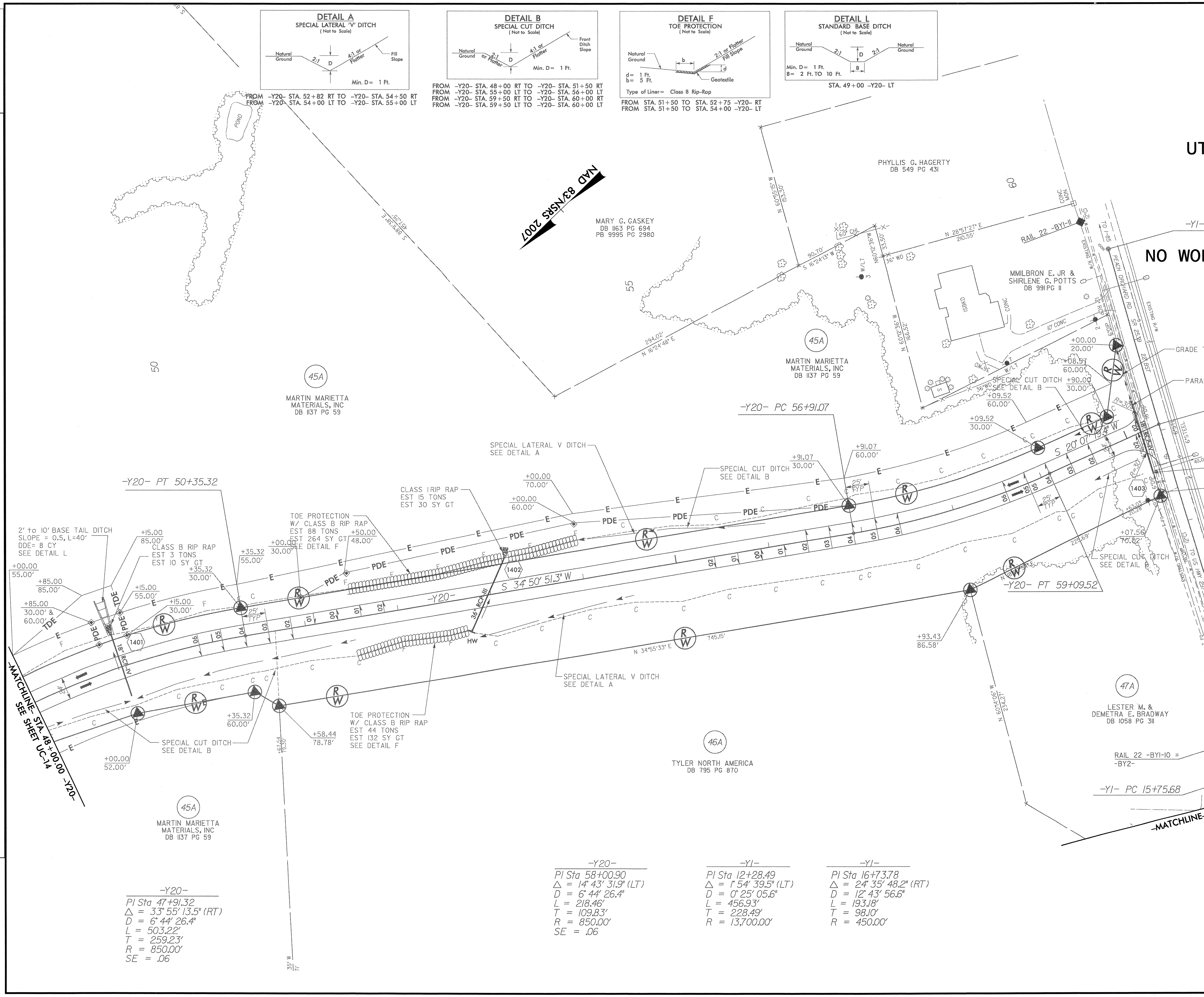
NORTH CAROLINA
DEPARTMENT OF
TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)250-4128
FAX:(919)250-4119

NORTH CAROLINA PROFESSIONAL SEAL 26960 ENGINEER REECE M. SCHULER
11/30/2012
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

NO WORK ON THIS SHEET



REVISIONS

DCN 0151DEL_P10b1

UTILITY CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UC-16

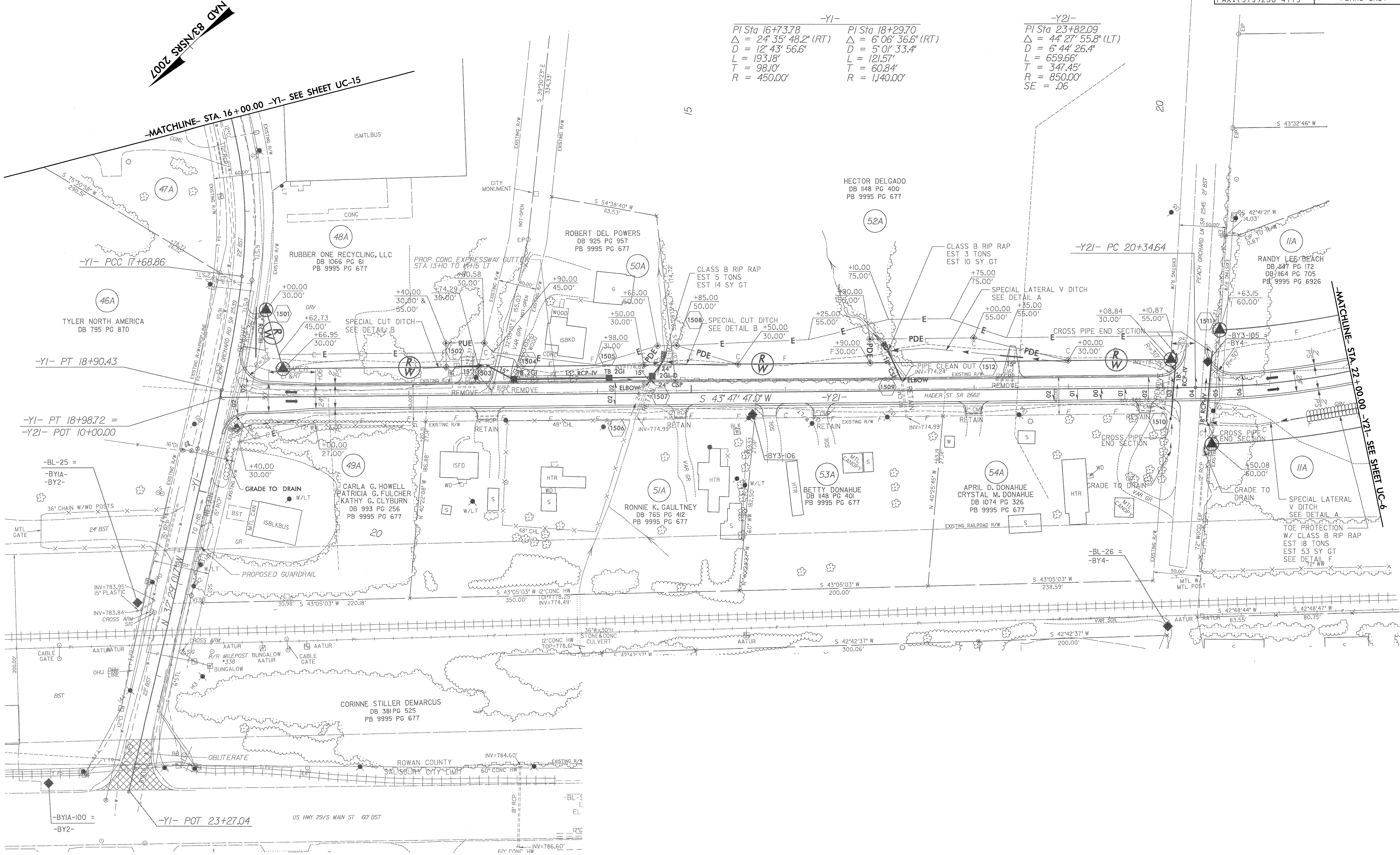
DESIGNED BY: RMS
DRAWN BY: LAM
CHECKED BY:
APPROVED BY:
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)250-4128
FAX:(919)250-4119

NORTH CAROLINA PROFESSIONAL SEAL 026260 ENGINEER REECE M. SCHULER
11/30/2012
UTILITY CONSTRUCTION PLANS ONLY

NO WORK ON THIS SHEET



0151DEL_P10b1

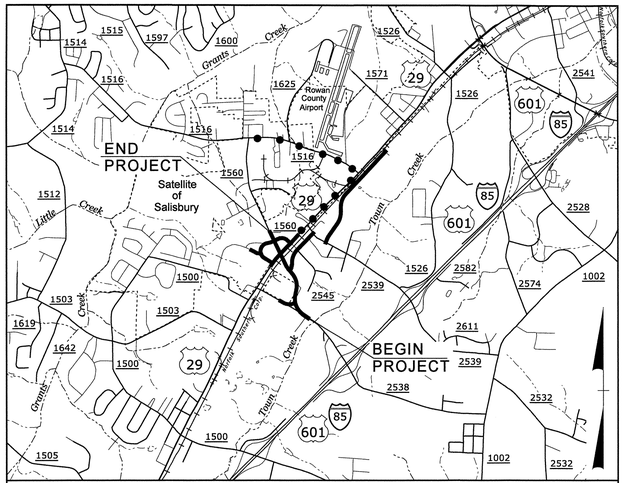
TIP PROJECT: P-5206A

CONTRACT:

STATE OF NORTH CAROLINA
NCDOT RAIL DIVISION

T.I.P. NO.	SHEET NO.
P-5206A	UO-1

UTILITIES BY OTHERS PLANS
ROWAN COUNTY

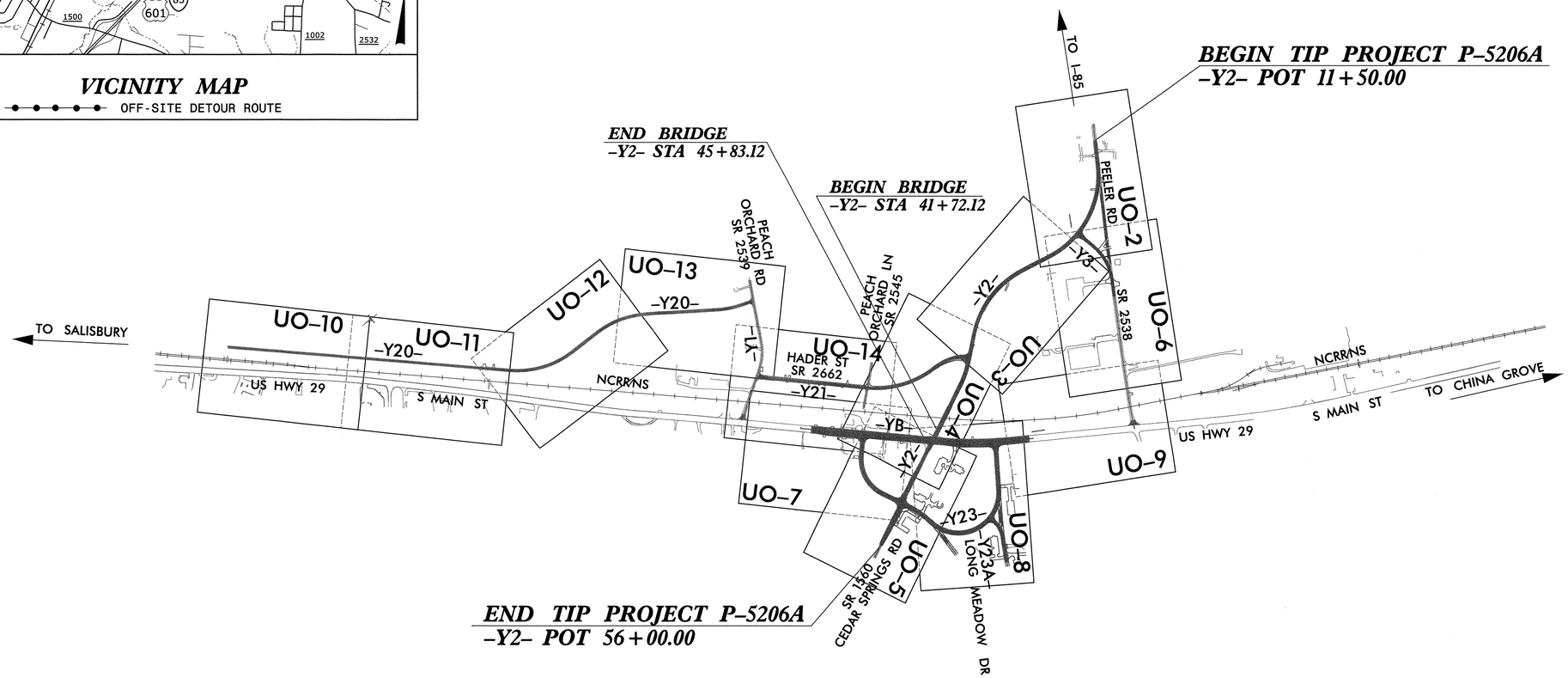


VICINITY MAP
OFF-SITE DETOUR ROUTE

LOCATION: PEELER ROAD – GRADE SEPARATION OVER NCRR/NS FROM REID TO NORTH KANNAPOLIS

TYPE OF WORK: AERIAL POWER, AERIAL & UNDERGROUND TELEPHONE, GAS, AND AERIAL & UNDERGROUND CABLE

NAD 83/NSRS 2007



NDOT RAIL DIVISION CONTACT: SANDRA STEPNEY, PE

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2 TO UO-14	UTILITIES BY OTHERS PLAN SHEETS

UTILITY OWNERS ON PROJECT

(1) POWER – DUKE ENERGY

(2) TELEPHONE – AT&T & WINDSTREAM

(2) CABLE – TIME WARNER CABLE & FIBRANT CABLE

(2) GAS – PIEDMONT NATURAL GAS

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 26960 ENGINEER REECE M. SCHULER

11/30/2012

Vaughn & Melton
Consulting Engineers
3089-L Beam Road
Charlotte, NC 28217
704-357-0488

PREPARED FOR OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES ENGINEERING SECTION
1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

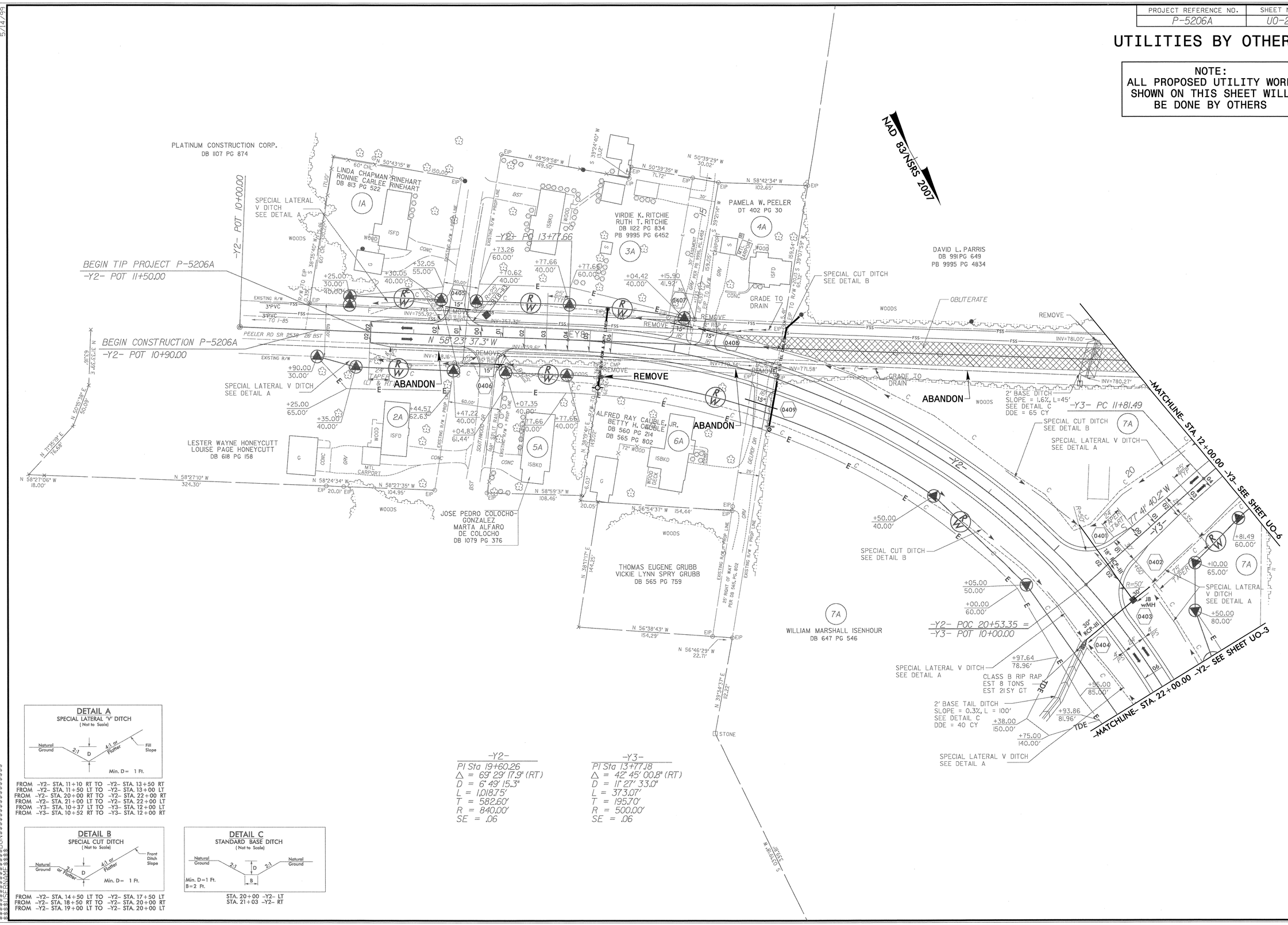
Roger Worthington, P.E.	UTILITIES SECTION ENGINEER
Xxxxx Xxxxx, P.E.	UTILITIES SQUAD LEADER PROJECT ENGINEER
Reece Schuler, PE	UTILITIES PROJECT DESIGNER

$$$$SYSTIME$$$$
$$$$$$$$DGN$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	U0-2

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

FROM -Y2- STA. 11+10 RT TO -Y2- STA. 13+50 RT
FROM -Y2- STA. 11+50 LT TO -Y2- STA. 13+00 LT
FROM -Y2- STA. 20+00 RT TO -Y2- STA. 22+00 RT
FROM -Y2- STA. 21+00 LT TO -Y2- STA. 22+00 LT
FROM -Y3- STA. 10+37 LT TO -Y3- STA. 12+00 LT
FROM -Y3- STA. 10+52 RT TO -Y3- STA. 12+00 RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

FROM -Y2- STA. 14+50 LT TO -Y2- STA. 17+50 LT
FROM -Y2- STA. 18+50 RT TO -Y2- STA. 20+00 RT
FROM -Y2- STA. 19+00 LT TO -Y2- STA. 20+00 LT

DETAIL C
STANDARD BASE DITCH
(Not to Scale)

STA. 20+00 -Y2- LT
STA. 21+03 -Y2- RT

-Y2-
PI Sta 19+60.26
Δ = 69° 29' 17.9" (RT)
D = 6° 49' 15.3"
L = 1,018.75'
T = 582.60'
R = 840.00'
SE = .06

-Y3-
PI Sta 13+77.18
Δ = 42° 45' 00.8" (RT)
D = 11° 27' 33.0"
L = 373.07'
T = 195.70'
R = 500.00'
SE = .06

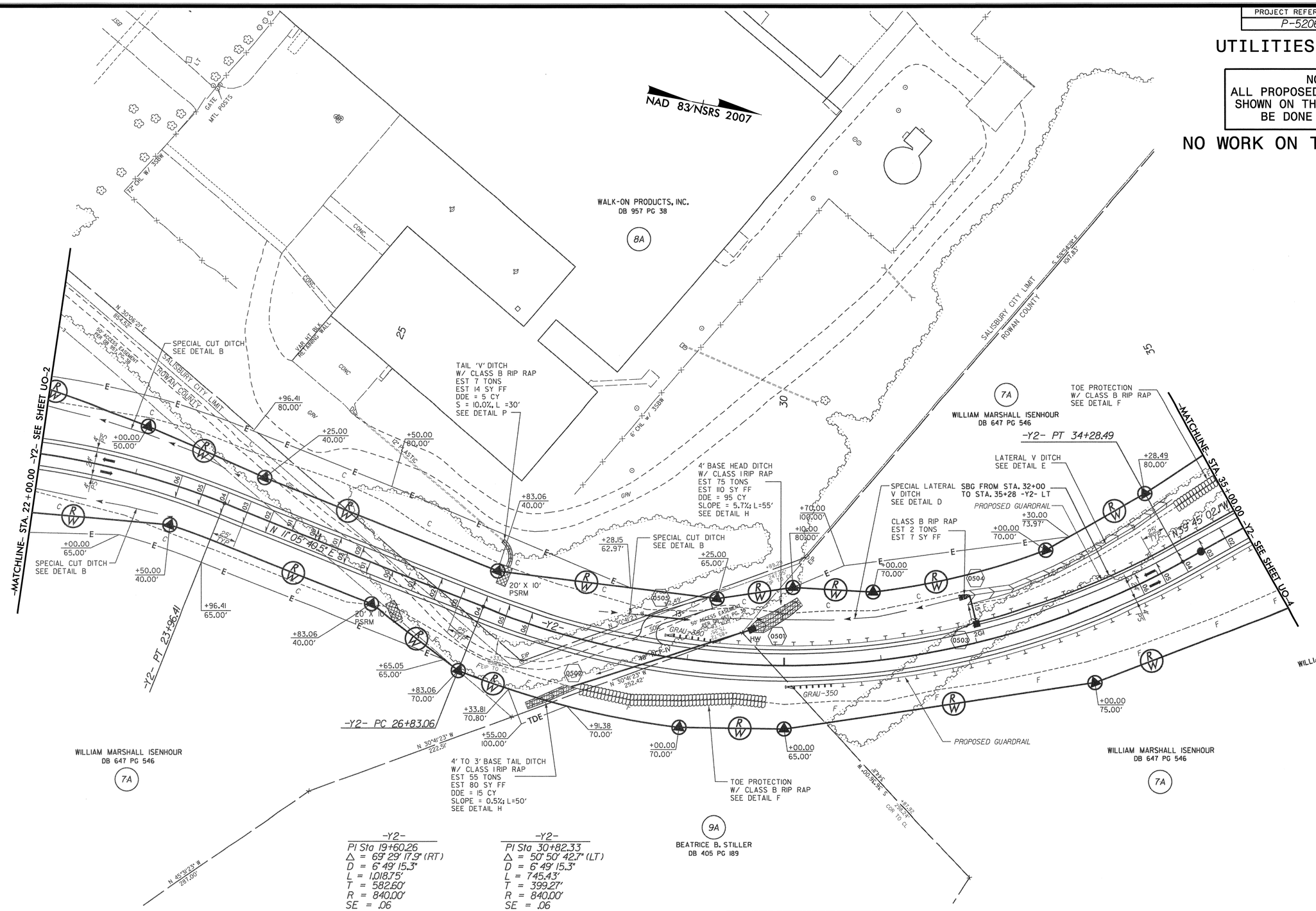
0151DEL_P10b1
5/14/99
REVISIONS
SYSTIME$$$$$$$$
USERNAME$$$$$$$$
DGN$$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UO-3

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

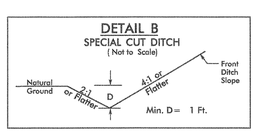
NO WORK ON THIS SHEET



-Y2-
PI Sta 19+60.26
Δ = 69° 29' 17.9" (RT)
D = 6° 49' 15.3"
L = 1,018.75'
T = 582.60'
R = 840.00'
SE = .06

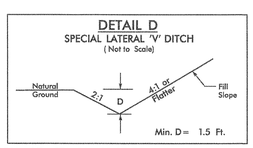
-Y2-
PI Sta 30+82.33
Δ = 50° 50' 42.7" (LT)
D = 6° 49' 15.3"
L = 745.43'
T = 399.27'
R = 840.00'
SE = .06

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



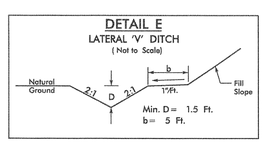
FROM -Y2- STA. 22+00 LT TO -Y2- STA. 24+00 LT
FROM -Y2- STA. 22+00 RT TO -Y2- STA. 23+50 RT
FROM -Y2- STA. 28+00 LT TO -Y2- STA. 29+65 LT

DETAIL D
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



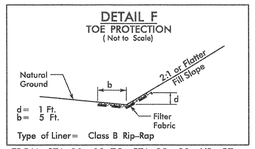
FROM -Y2- STA. 29+65 LT TO -Y2- STA. 32+00 LT

DETAIL E
LATERAL 'V' DITCH
(Not to Scale)



FROM -Y2- STA. 32+00 LT TO -Y2- STA. 34+50 LT

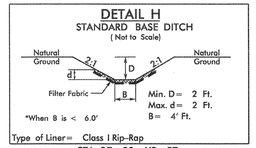
DETAIL F
TOE PROTECTION
(Not to Scale)



Type of Liner= Class B Rip-Rap

FROM STA. 28+00 TO STA. 29+80 -Y2- RT
FROM STA. 34+50 TO STA. 35+00 -Y2- LT

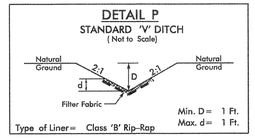
DETAIL H
STANDARD BASE DITCH
(Not to Scale)



Type of Liner= Class I Rip-Rap

STA. 27+80 -Y2- RT
STA. 29+70 -Y2- LT

DETAIL P
STANDARD 'V' DITCH
(Not to Scale)



Type of Liner= Class 'B' Rip-Rap

STA. 26+92 -Y2- LT

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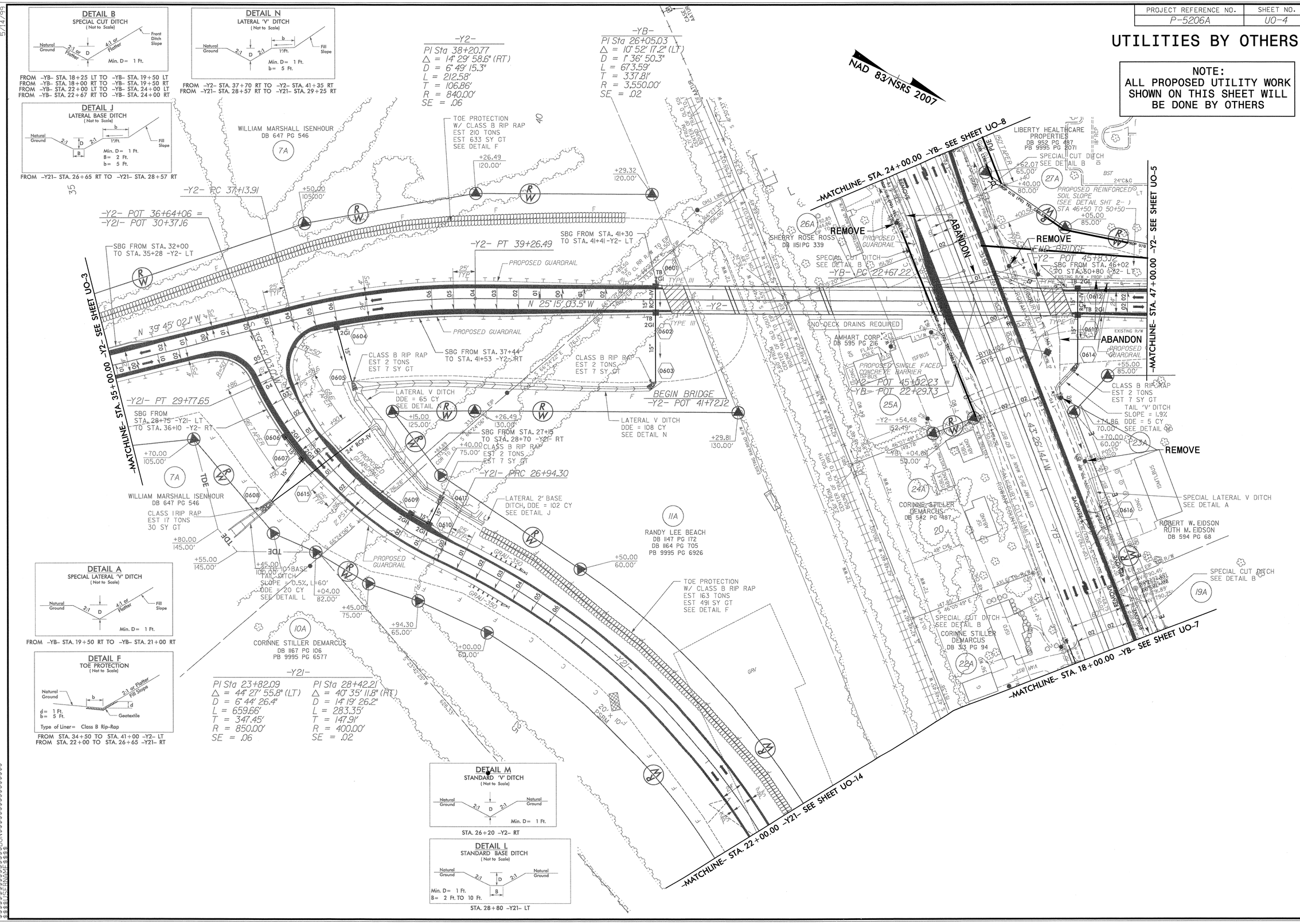
UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



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REVISIONS

$$$$SYSTIME$$$$
$$$$USERNAME$$$$

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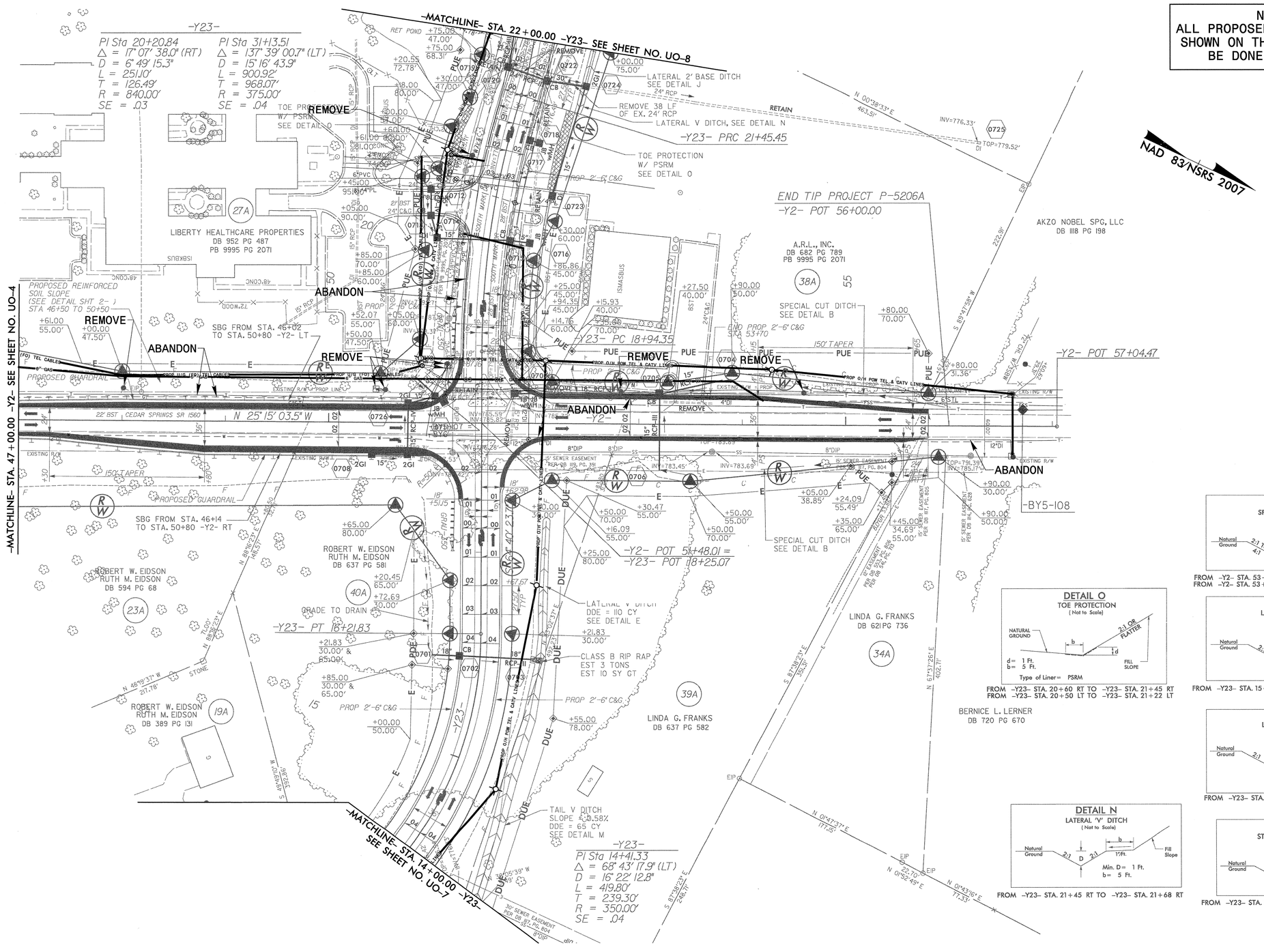
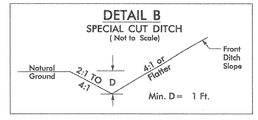
PROJECT REFERENCE NO.	SHEET NO.
P-5206A	U0-5

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

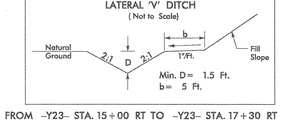


FROM -Y2- STA. 53+80 LT TO -Y2- STA. 56+00 LT
FROM -Y2- STA. 53+20 RT TO -Y2- STA. 55+50 RT

DETAIL O
TOE PROTECTION
(Not to Scale)

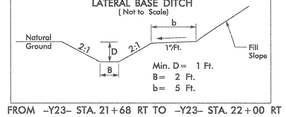
FROM -Y23- STA. 20+60 RT TO -Y23- STA. 21+45 RT
FROM -Y23- STA. 20+50 LT TO -Y23- STA. 21+22 LT

DETAIL E
LATERAL 'V' DITCH
(Not to Scale)



FROM -Y23- STA. 15+00 RT TO -Y23- STA. 17+30 RT

DETAIL J
LATERAL BASE DITCH
(Not to Scale)

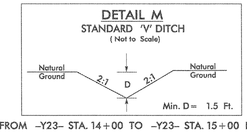


FROM -Y23- STA. 21+68 RT TO -Y23- STA. 22+00 RT

DETAIL N
LATERAL 'V' DITCH
(Not to Scale)

FROM -Y23- STA. 21+45 RT TO -Y23- STA. 21+68 RT

DETAIL M
STANDARD 'V' DITCH
(Not to Scale)



FROM -Y23- STA. 14+00 TO -Y23- STA. 15+00 RT

SYTIME$$$

PROJECT REFERENCE NO.	SHEET NO.
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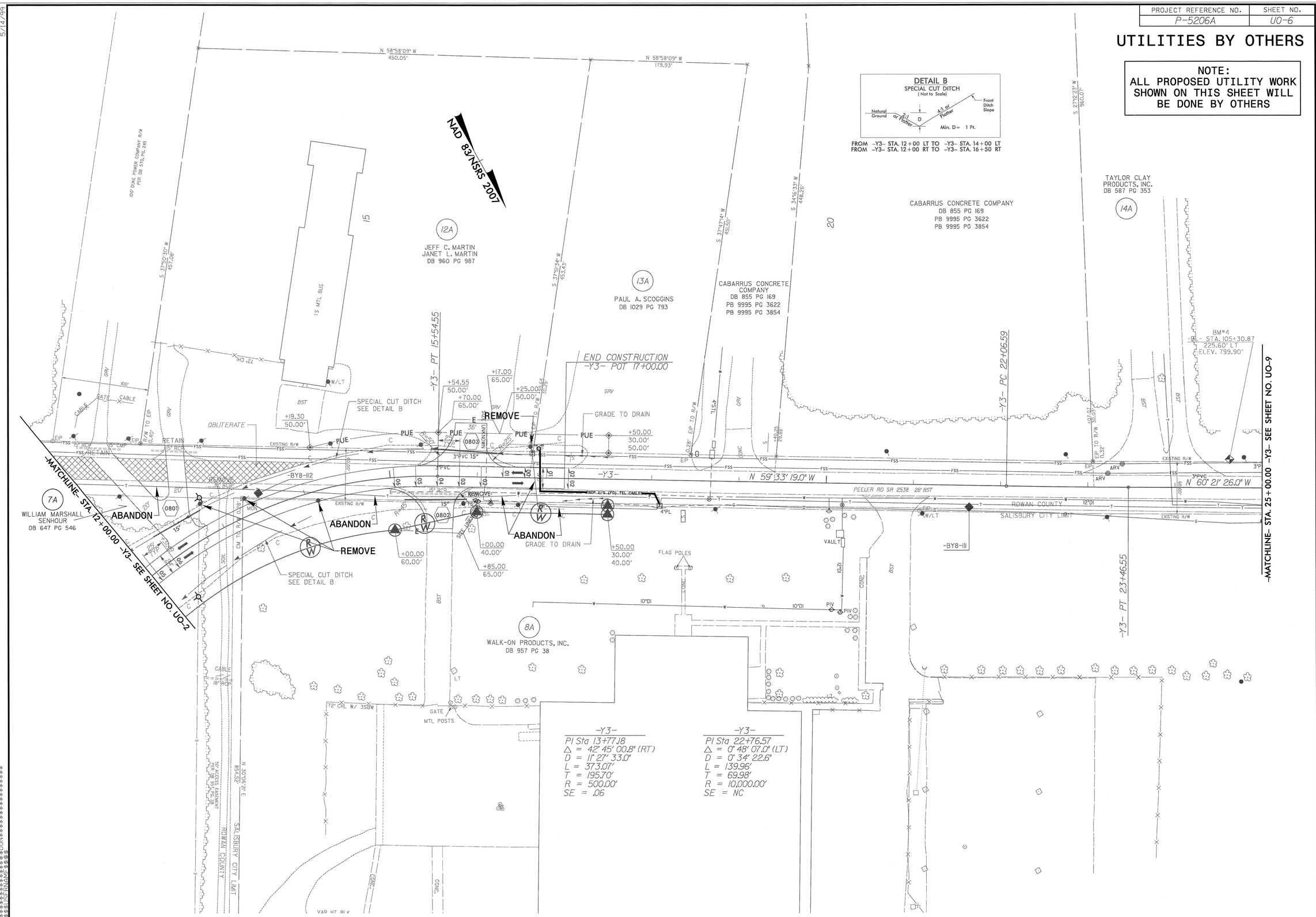
UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



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$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$TEMPNAME$$$$

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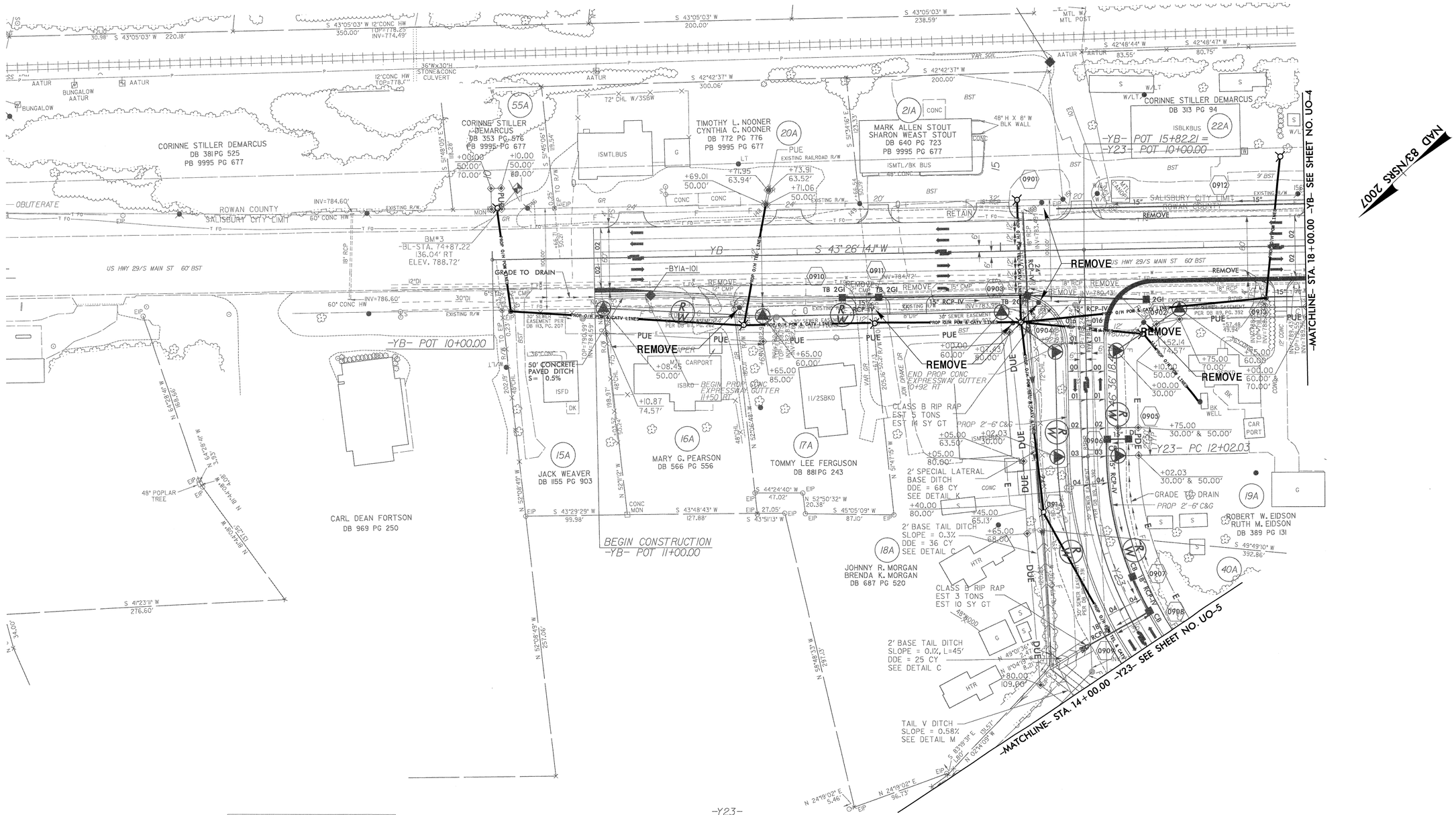
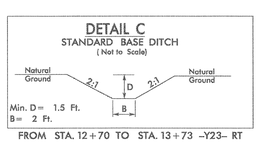
PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UO-7

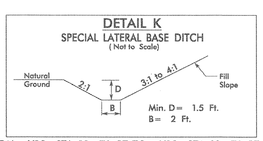
UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

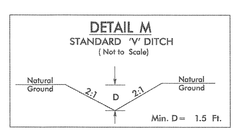




FROM STA. 12+70 TO STA. 13+73 -Y23- RT



FROM -Y23- STA. 10+70 RT TO -Y23- STA. 12+70 RT



FROM -Y23- STA. 13+73 RT TO -Y23- STA. 14+00 RT

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

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PROJECT REFERENCE NO.	SHEET NO.
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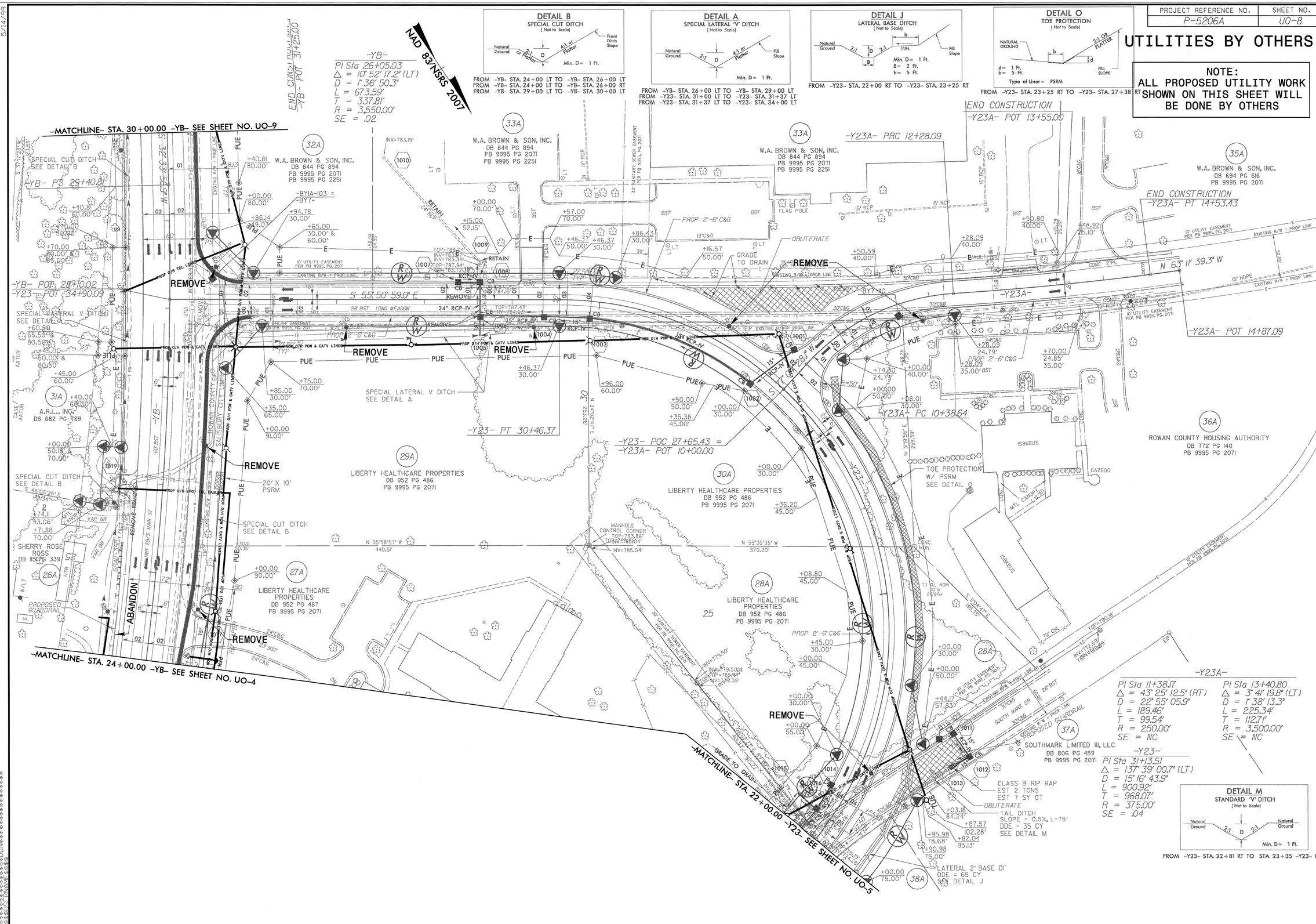
UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

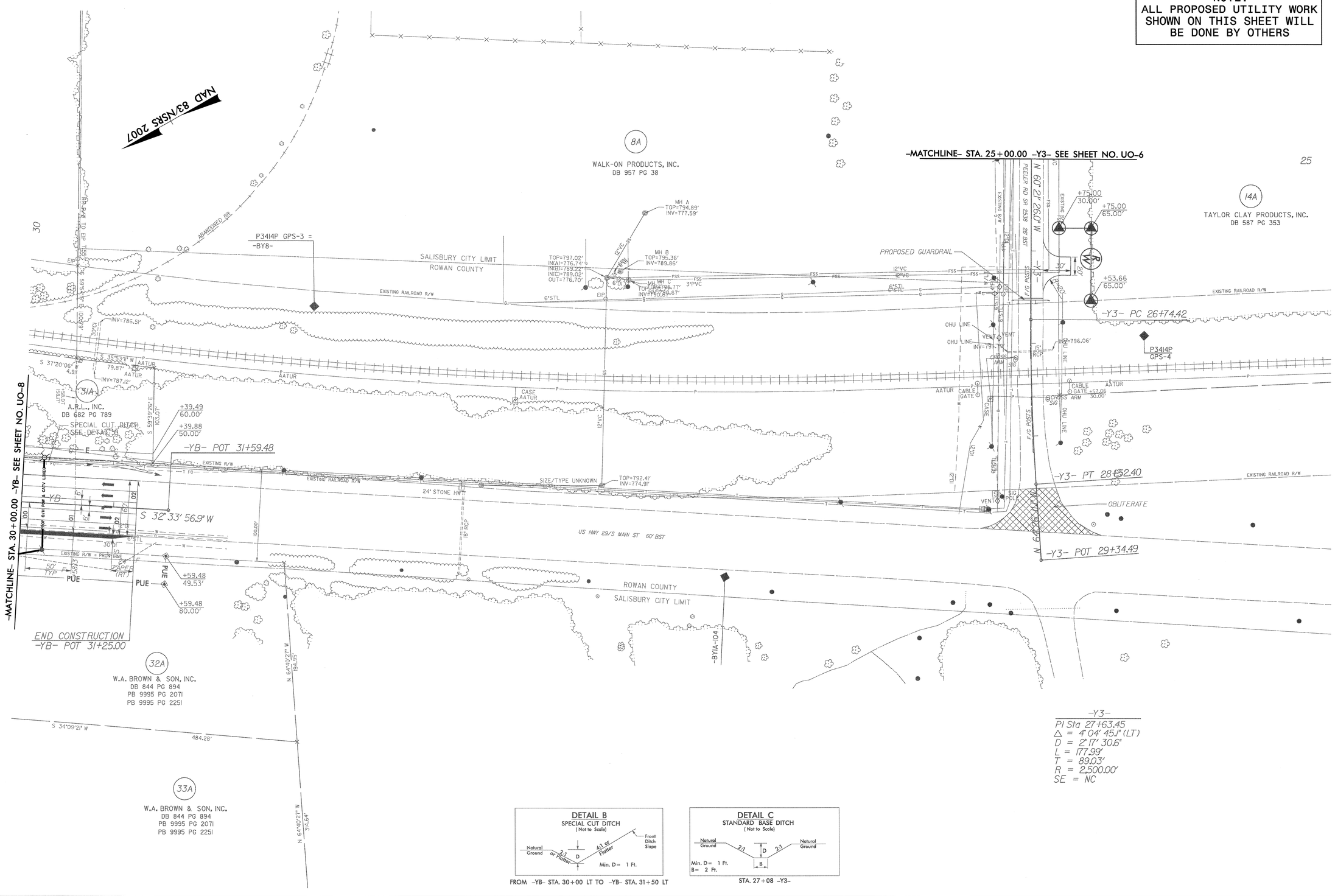


SYSTIME$$$$
DGN$$$$
USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UO-9

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

FROM -YB- STA. 30+00 LT TO -YB- STA. 31+50 LT

DETAIL C
STANDARD BASE DITCH
(Not to Scale)

STA. 27+08 -Y3-

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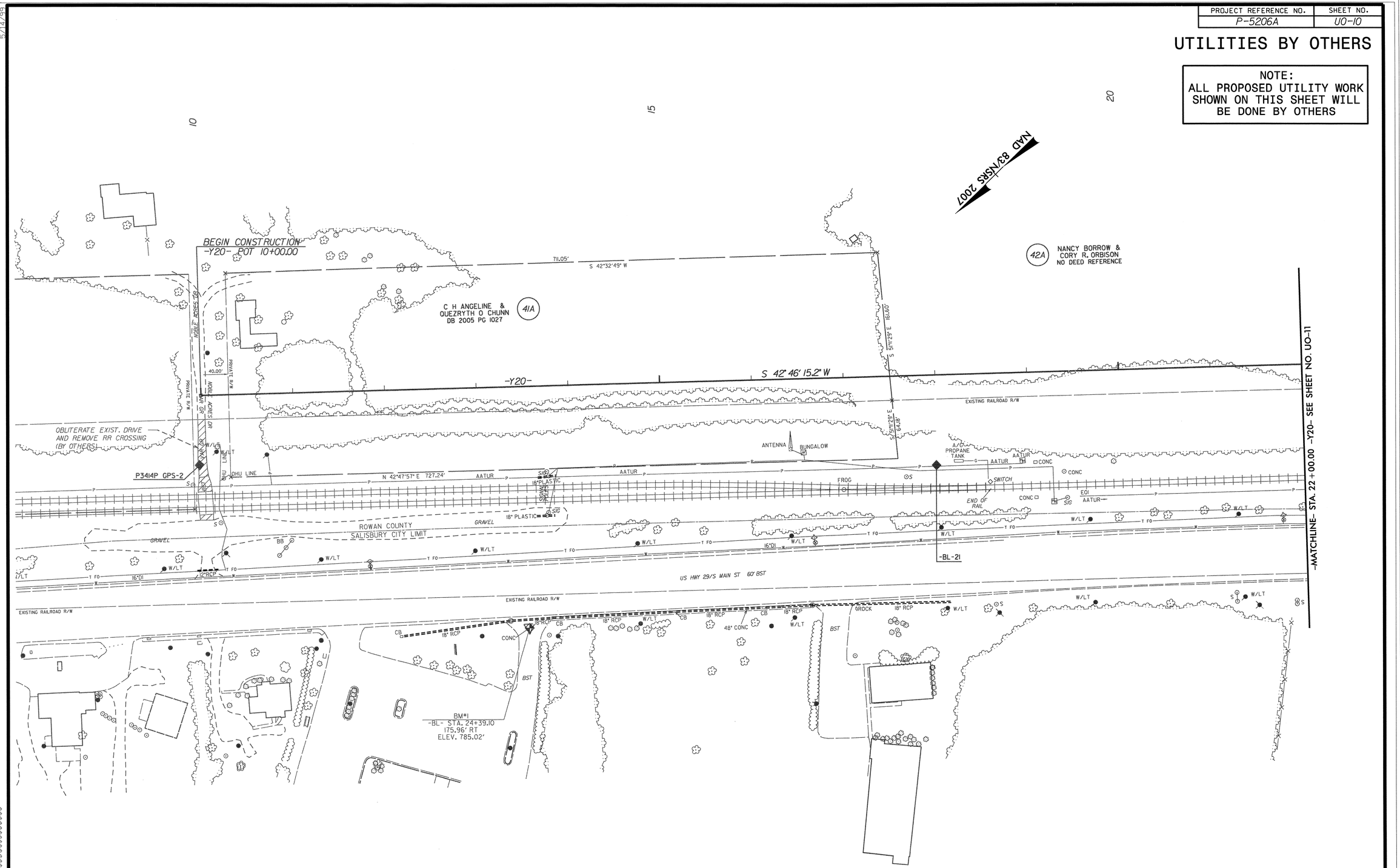
$$$$$SYSTIME$$$$$
$$$$$DGN$$$$$
$$$$$USRNAME$$$$$

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	U0-10

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



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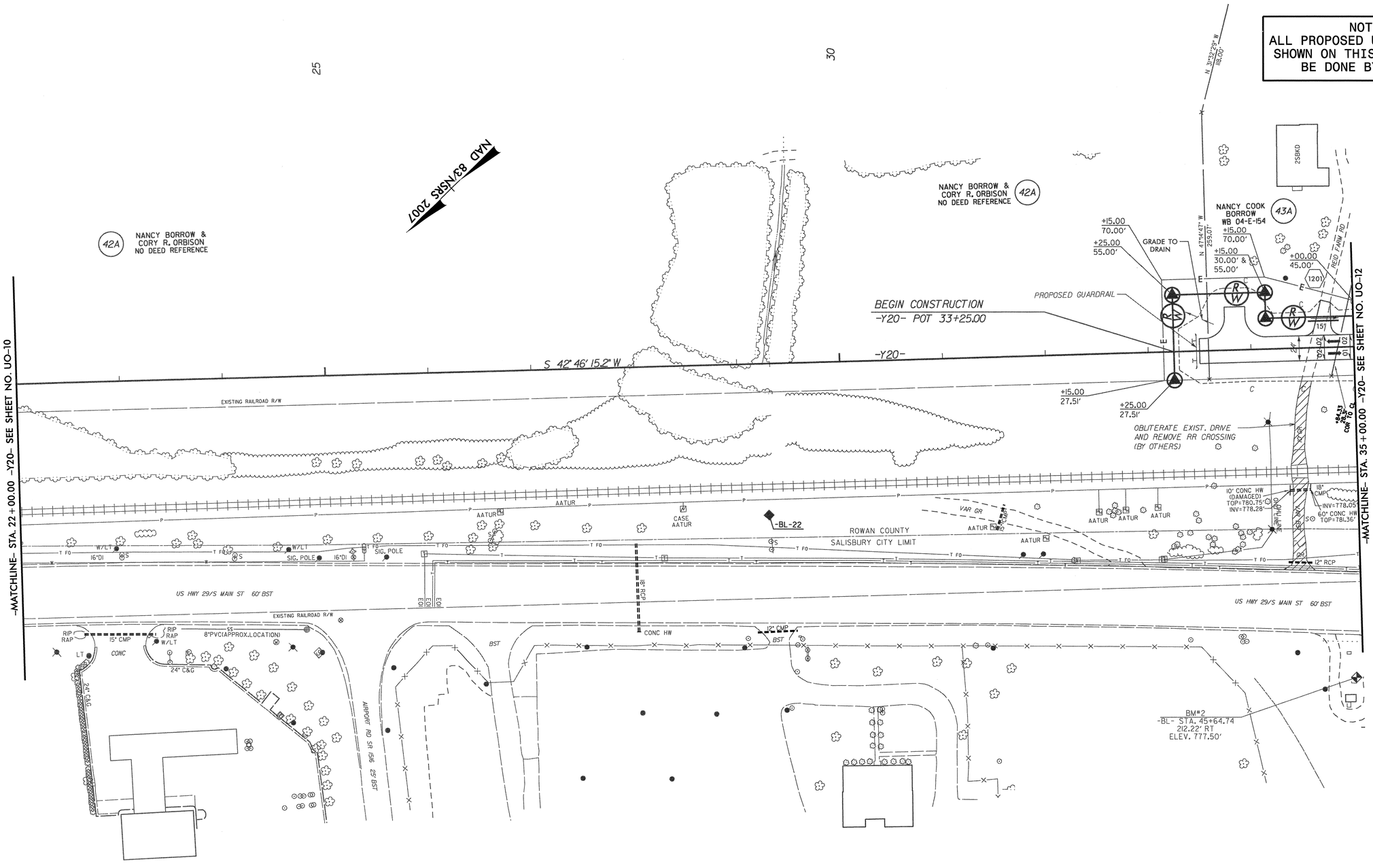
PROJECT REFERENCE NO.	SHEET NO.
P-5206A	UO-11

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



REVISIONS

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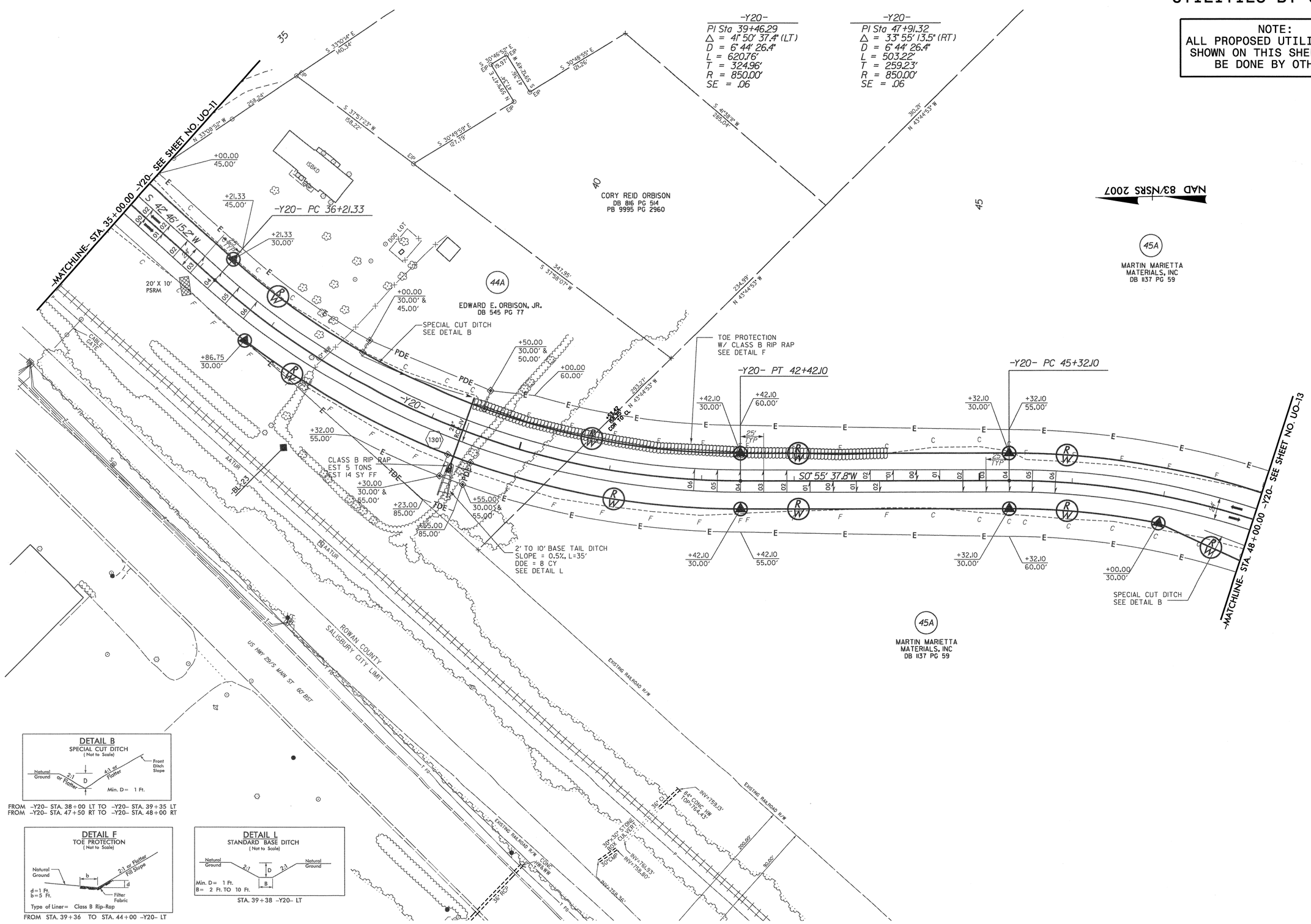
SYSTIME $$$$
SYSDATE $$$$
SYSNAME $$$$

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	U0-12

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

FROM -Y20- STA. 38+00 LT TO -Y20- STA. 39+35 LT
FROM -Y20- STA. 47+50 RT TO -Y20- STA. 48+00 RT

DETAIL F
TOE PROTECTION
(Not to Scale)

Type of Liner = Class B Rip-Rap
FROM STA. 39+36 TO STA. 44+00 -Y20- LT

DETAIL L
STANDARD BASE DITCH
(Not to Scale)

Min. D = 1 Ft.
B = 2 Ft. TO 10 Ft.
STA. 39+38 -Y20- LT

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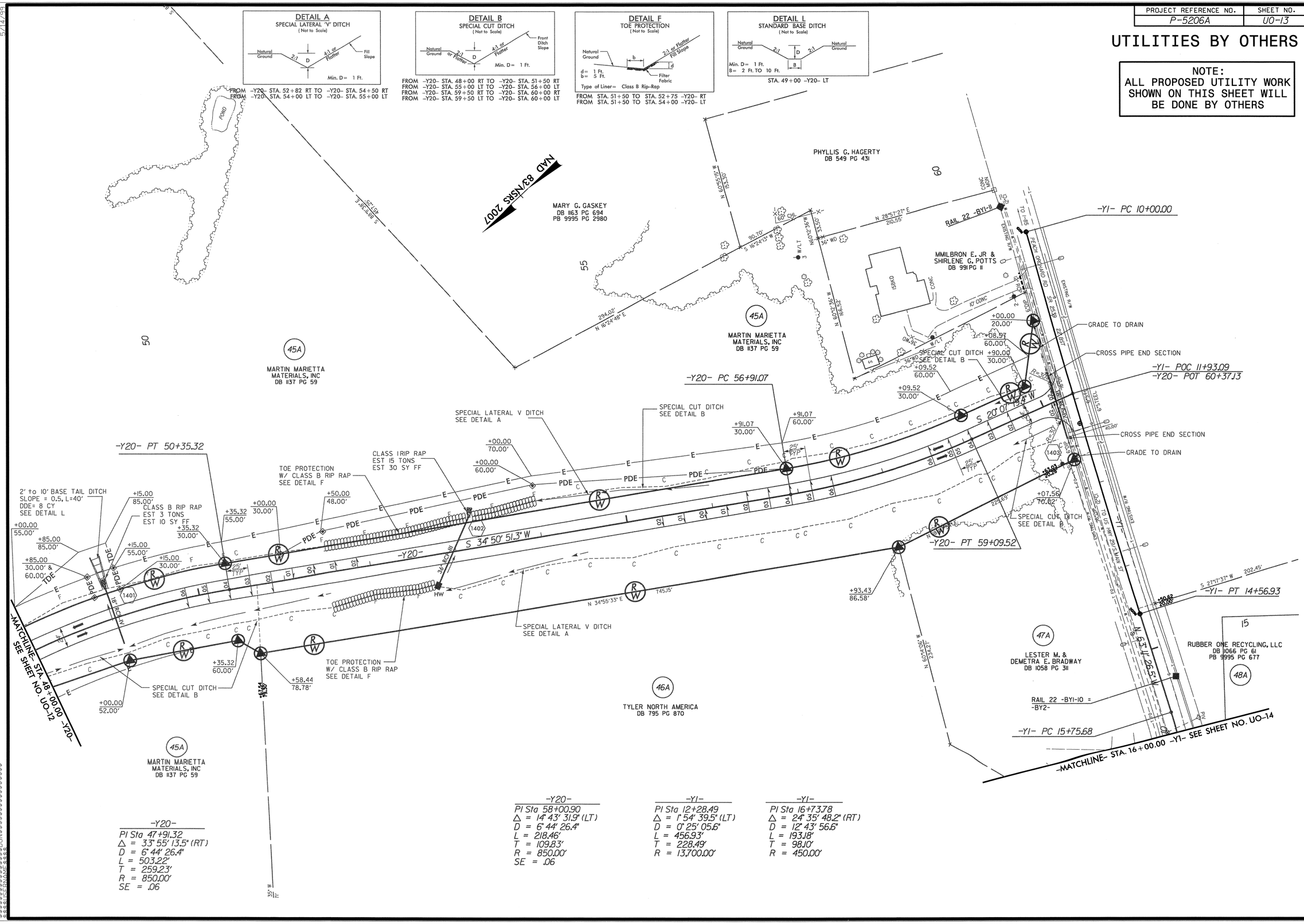
$$$$$$SYSTIME$$$$$$
$$$$$$LENGNAME$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
P-5206A	U0-13

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



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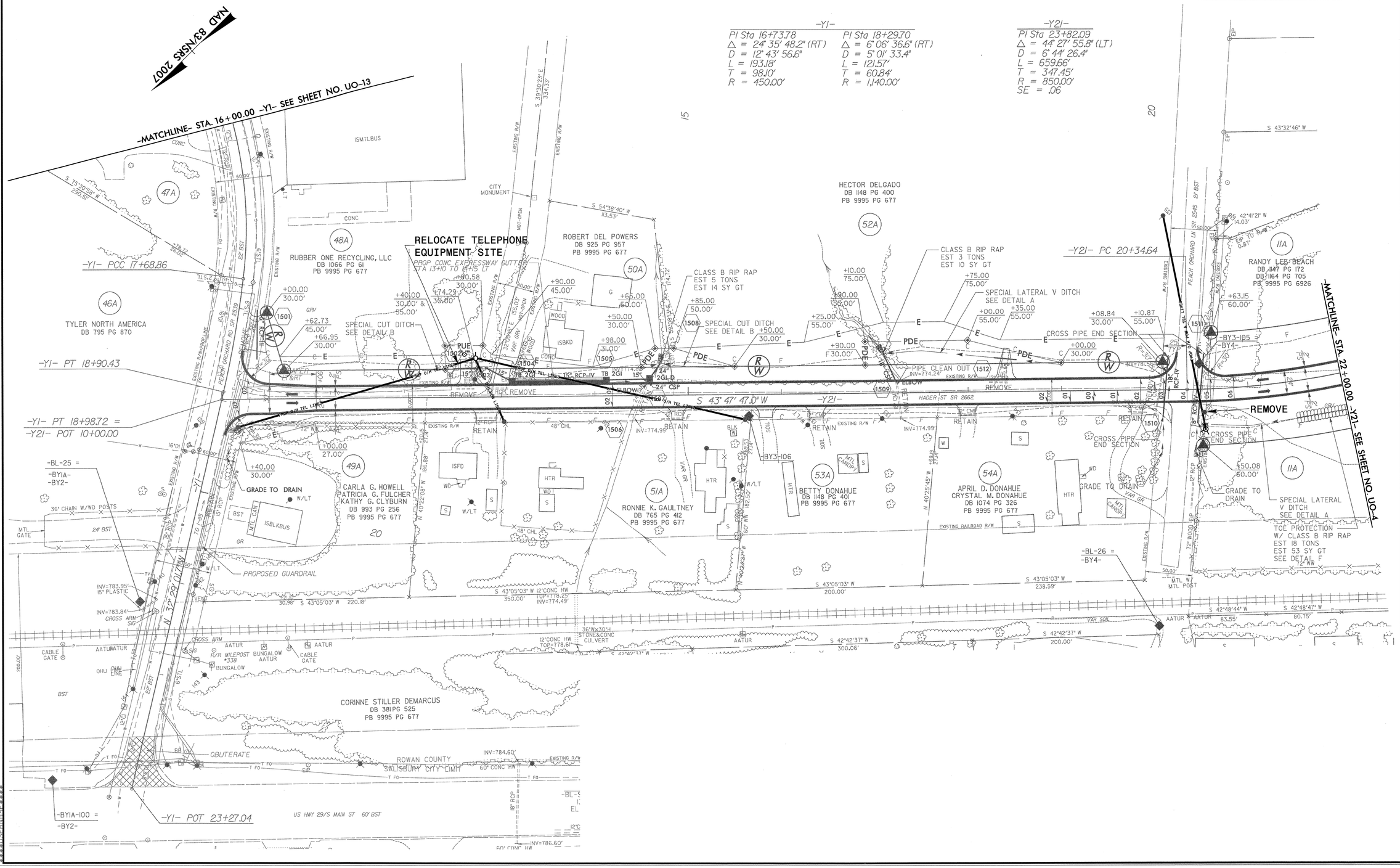
PROJECT REFERENCE NO.	SHEET NO.
P-5206A	U0-14

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



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